



HEINRICH KIPP WERK



CLAMPING TECHNOLOGY

Clamping technology

Standard elements

Operating parts



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Reg. Nr. 002081 QM



SERVICE HOURS

MONDAY - THURSDAY 7.00 am - 5.30 pm

FRIDAY 7.00 am - 3.30 pm

PRODUCT GROUPS

WORKHOLDING TECHNOLOGY



Clamping elements



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Locating elements



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Rest and stop elements



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Form holding systems



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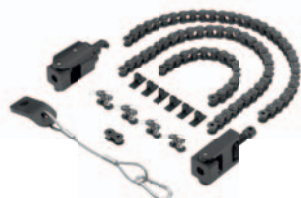
Workpiece stabiliser



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Chain clamp

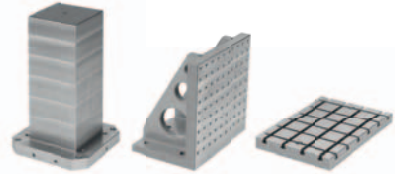


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MODULAR CLAMPING TECHNOLOGY



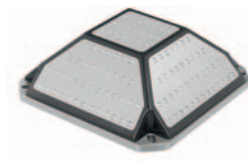
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Mineral cast



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Add-on elements



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Fastener elements, Accessories



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NEW PRODUCTS



ZERO POINT CLAMPING TECHNOLOGY



Zero-point clamping system



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5-axis module clamping system 80



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5-axis module clamping system 50



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5-axis module clamping system 138



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Locating and clamping systems



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VICE CLAMPING TECHNOLOGY



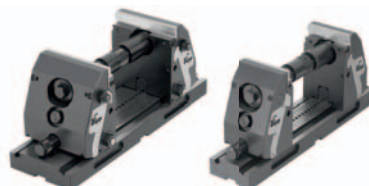
KIPPflexX 5-axis vice



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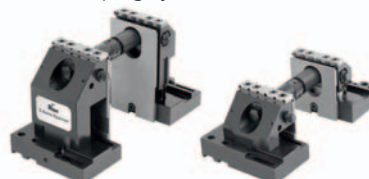
5-axis clamping system compact



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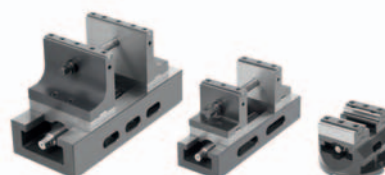
3-axis clamping system
5-axis clamping system



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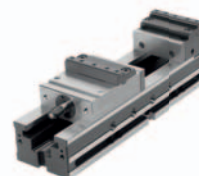
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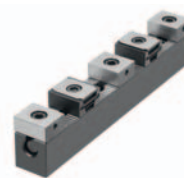
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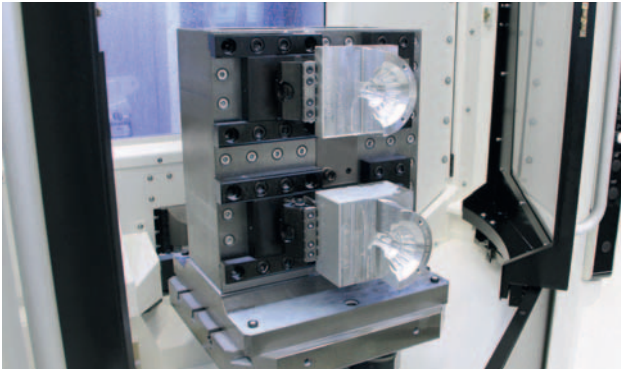
Multi-clamping system



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TRUST IN KIPP





H EINRICH KIPP WERK has been a quality partner to industry for more than 100 years.

We offer a comprehensive product spectrum with in total more than 55,000 elements, 4,500 of these in the field of clamping technology.

We produce in our own machine shop located in Germany. This guarantees rapid response times and short logistics routes. Customers appreciate our vertical integration and many years of development experience.

Reliability. Durability. Sustainability.
This is what our owner managed company has stood for from the very beginning.



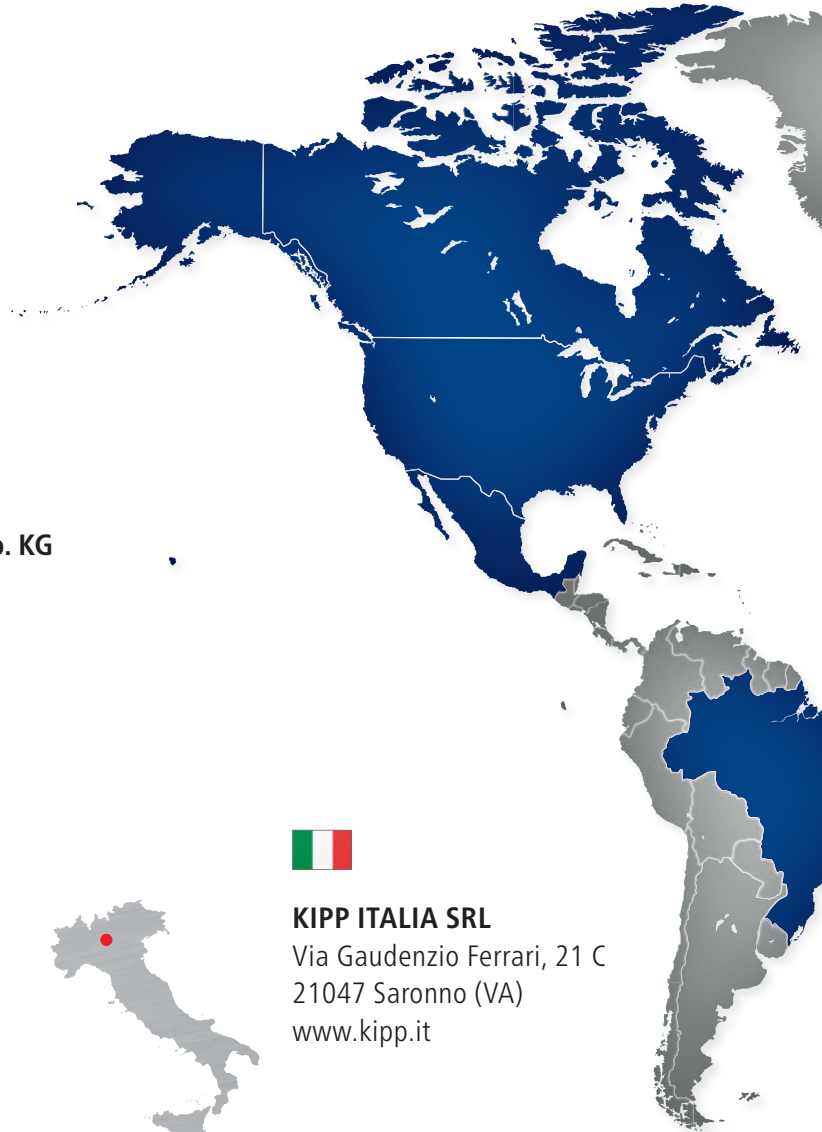
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LOCATIONS

HEINRICH KIPP WERK is present worldwide with 11 company branches and more than 50 agencies, and so guarantees a high level of delivery capability internationally. We have a well-developed service network and specialised consultants.



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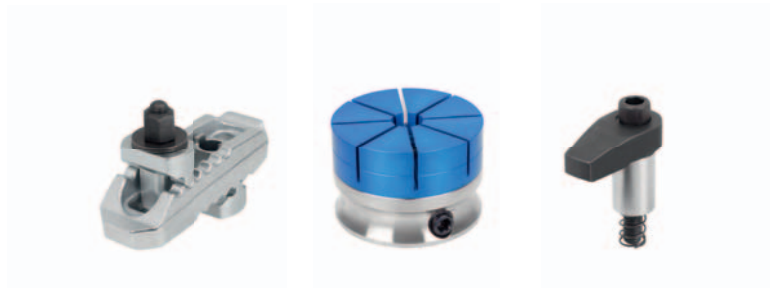
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PRODUCT RANGES

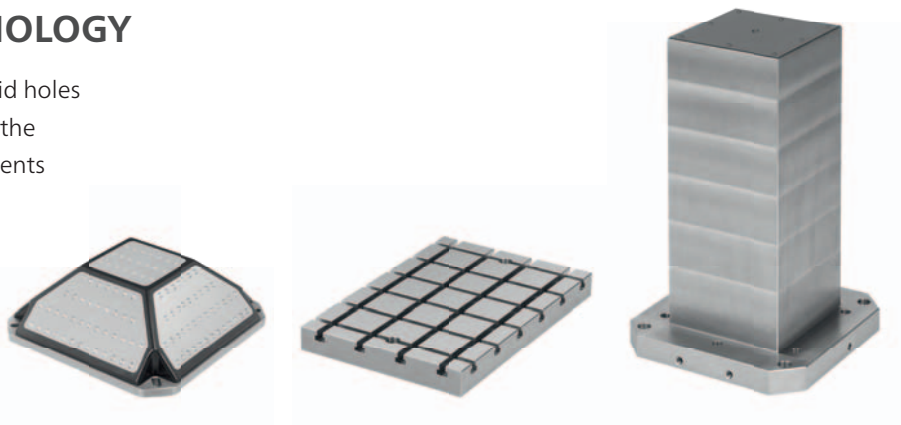
WORKHOLDING TECHNOLOGY

Diverse component program for the universal clamping of workpieces. Logically structured product groups such as clamping elements, positioning elements and clamping accessories for machine tools. Freely combinable and very flexible.



MODULAR CLAMPING TECHNOLOGY

Basic elements for modular workholding over grid holes. Standardised plates, towers and angles improve the flexibility and reduce the number of fixture elements in machining to a minimum.



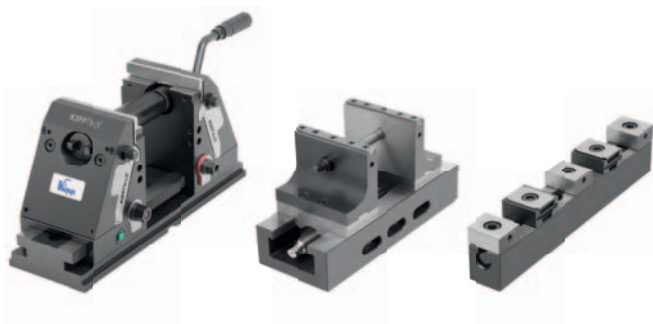
ZERO POINT CLAMPING TECHNOLOGY

Systems for quick, precise clamping and referencing with the zero-point clamping technology. The 5-axis module clamping system is available for multi-side machining. Other quick-change systems are the mechanical and pneumatic positioning and clamping systems.



VICE CLAMPING TECHNOLOGY

Various vice types. 5-axis clamping systems for 5-sided machining. NC vices for 3-axis milling machines. Multi-clamping systems for large quantities. Centric vices with zero-point and automaton interface.





CAD

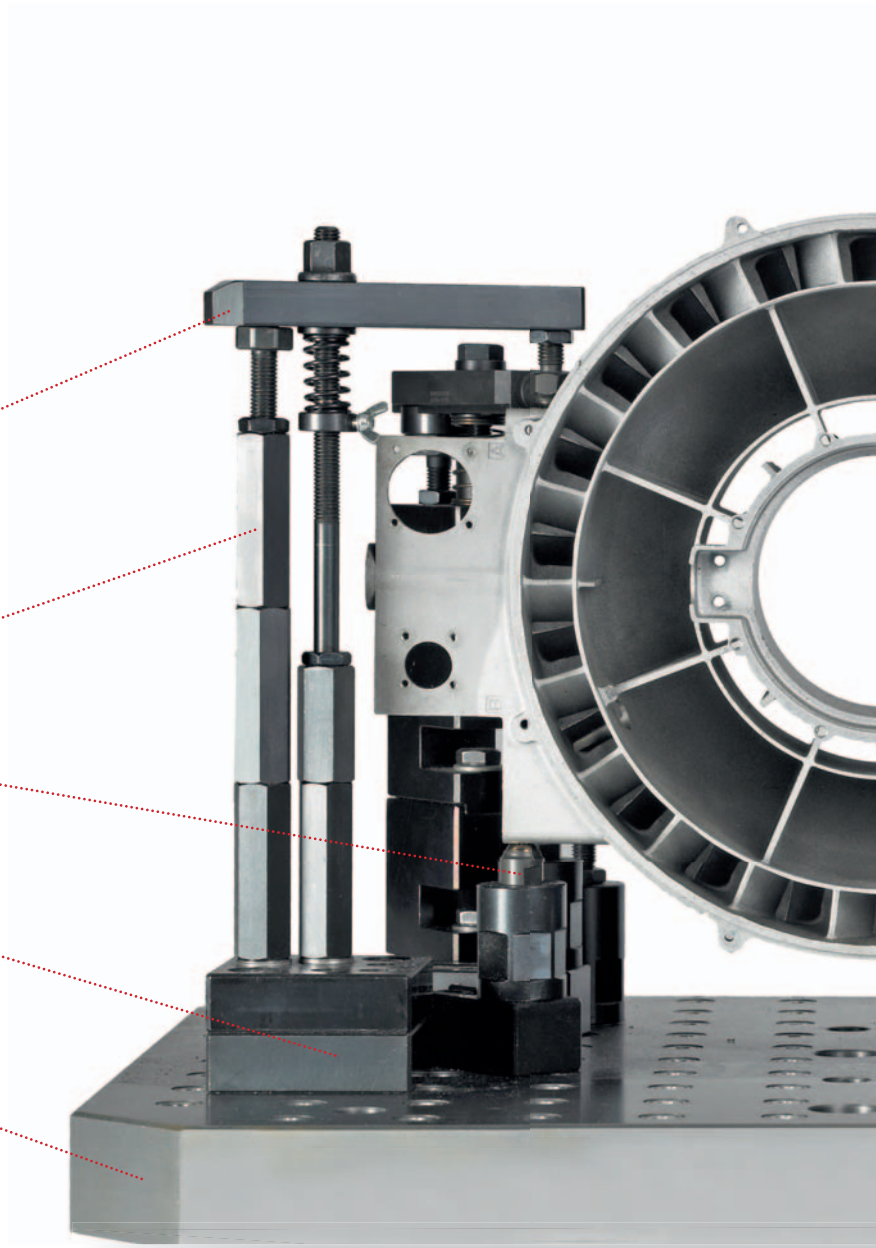
Adjustable clamp strap

Extension pieces for height adjustment

Self-aligning pad for support

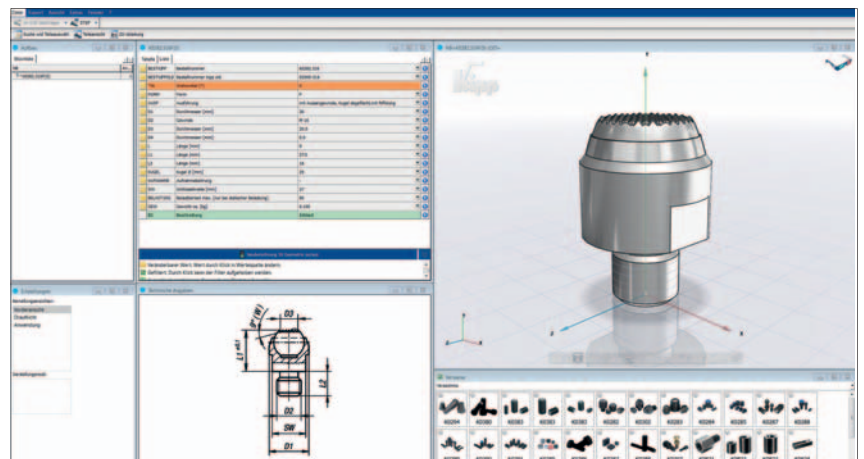
Precision riser blocks

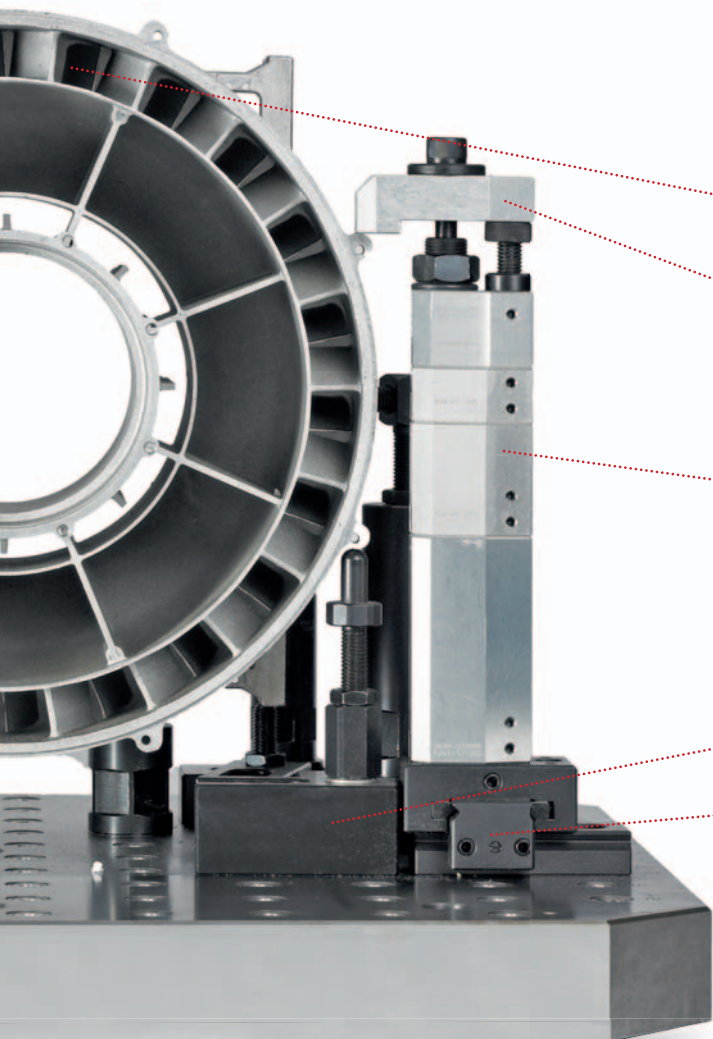
Tooling plate



KIPP offers:

- Product selection over several search criteria
- 3D product display, drawings, dimension tables and product information
- CAD download (2D and 3D)





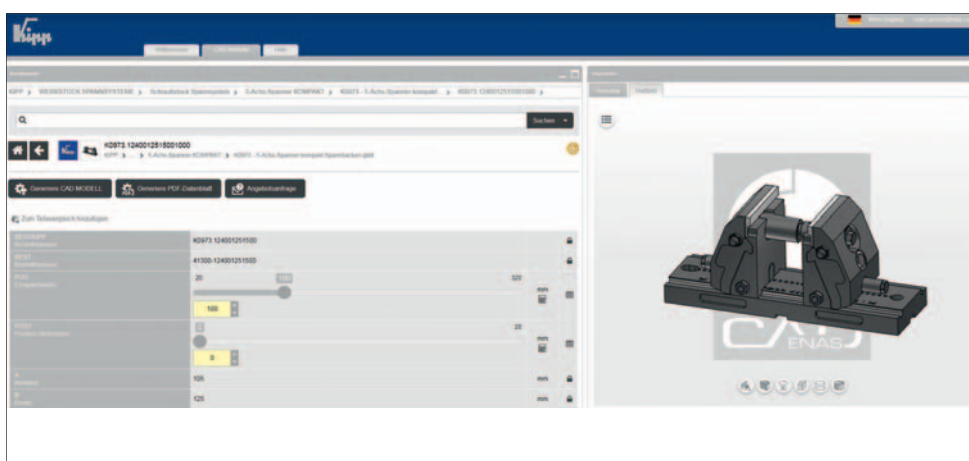
Workpiece

Adjustable clamping unit

Various riser blocks

Adjustable seating block

Adjustable positioning unit



2D and 3D CAD data can now be downloaded directly from the selected product. Once you have registered, this service will be available to you each time you log in.

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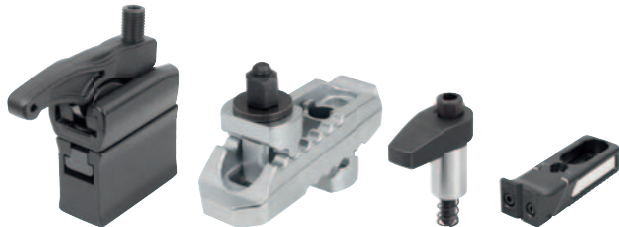
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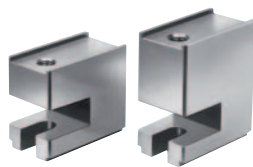
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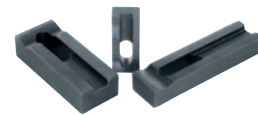
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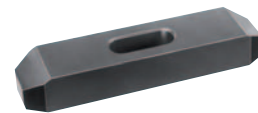
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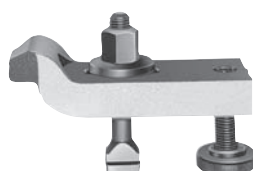
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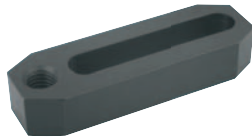
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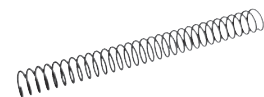
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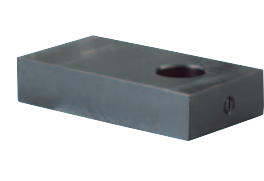
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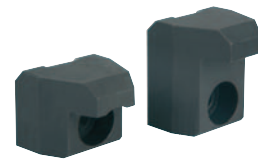
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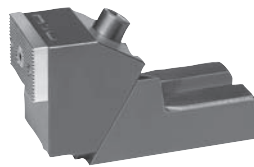
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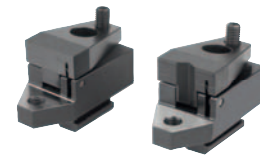
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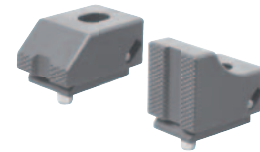
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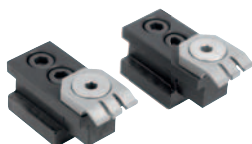
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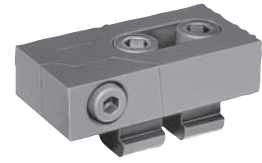
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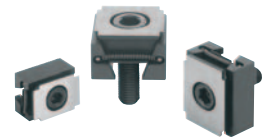


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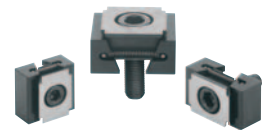
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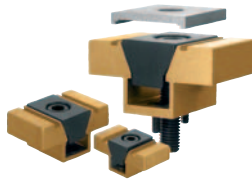
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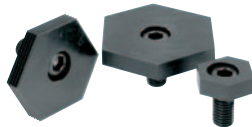
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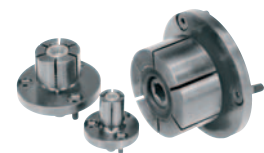
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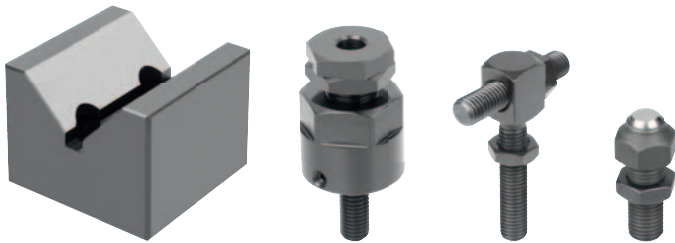
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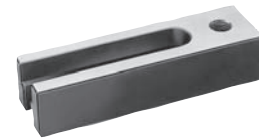
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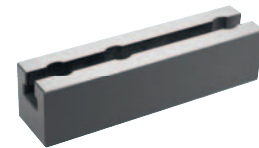
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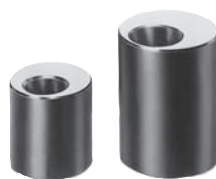
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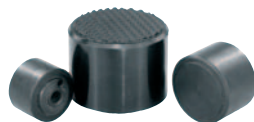
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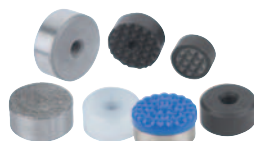
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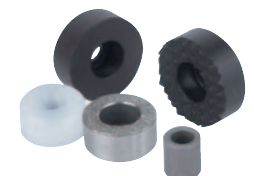
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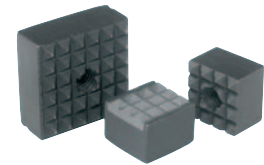
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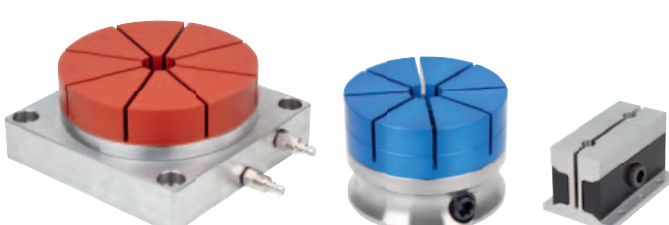

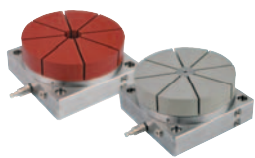




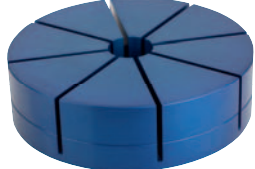
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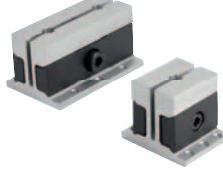
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Fastening set with clamping ball
for workpiece stabiliser
K1191



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Claw clamp
for workpiece stabiliser
K1192



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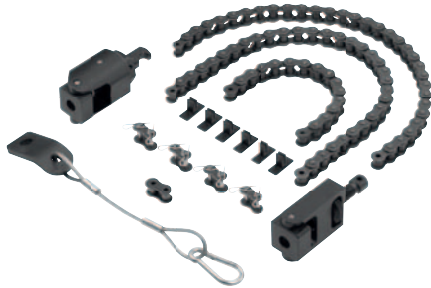
Clamping balls with cup
for workpiece stabiliser
K1193



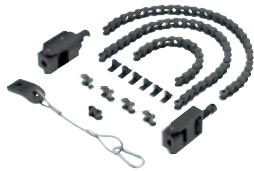
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Chain clamp



Chain clamp
K1650

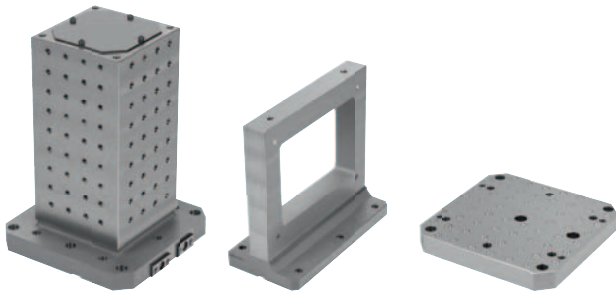


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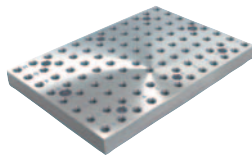




Basic elements

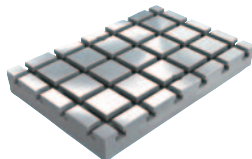


Baseplates, grey cast iron with grid holes
K0800



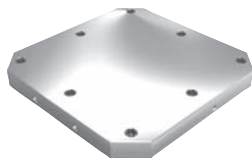
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Baseplates, grey cast iron with T-slots
K0800



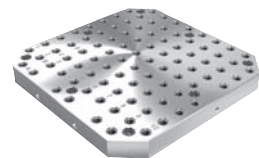
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Subplates, grey cast iron with pre-machined clamping faces
K0806



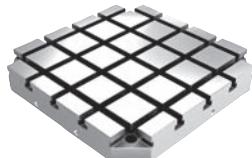
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Subplates, grey cast iron with grid holes
K0806



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Subplates, grey cast iron with T-slots
K0806



Page 303

Workholding cubes, grey cast iron with pre-machined clamping faces
K0805



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Workholding cubes, grey cast iron with grid holes
K0805



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Workholding cubes, grey cast iron with T-slots
K0805



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Tombstones cube without grid holes
K0805



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Clamping towers, grey cast iron, 4-sided, with pre-machined clamping faces
K1533



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Clamping towers, grey cast iron, 4-sided, with grid holes
K1533



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Clamping towers, grey cast iron, 6-sided, with pre-machined clamping faces
K1534



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Clamping towers, grey cast iron, 6-sided, with grid holes
K1534



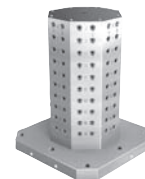
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Clamping towers, grey cast iron, 8-sided, with pre-machined clamping faces
K1535



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Clamping towers, grey cast iron, 8-sided, with grid holes
K1535



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Tombstones, grey cast iron, double-sided, with pre-machined clamping faces
K0803

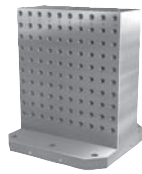


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Basic elements

Tombstones, grey cast iron,
double-sided,
with grid holes
K0803



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Tombstones, grey cast iron,
double-sided,
with T-slots
K0803



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Tombstones double-sided
without grid holes
K0803



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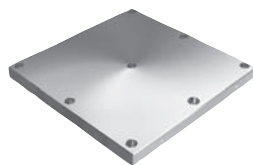
Tombstone, grey cast iron,
double-sided,
for interchangeable subplates
K0804



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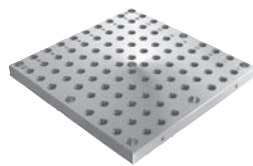
Interchangeable subplates,
grey cast iron,
with pre-machined
clamping faces
K0801



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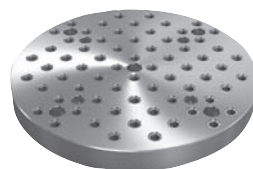
Interchangeable subplates,
grey cast iron,
with grid holes
K0801



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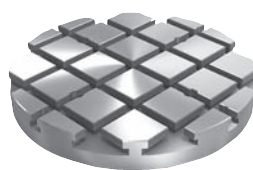
Baseplates, grey cast iron,
round,
with grid holes
K1532



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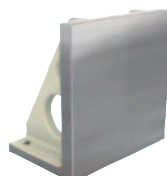
Baseplates, grey cast iron,
round,
with T-slots
K1532



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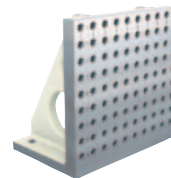
Angle plates, grey cast iron, wide
with pre-machined clamping faces
K1531



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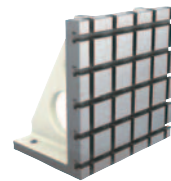
Angle plates, grey cast iron, wide
with grid holes
K1531



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Angle plates, grey cast iron, wide
with T-slots
K1531



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Angle plates
with or without T-slots
cast iron
K1451



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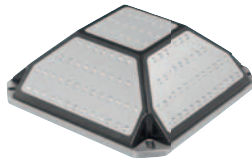




Mineral cast



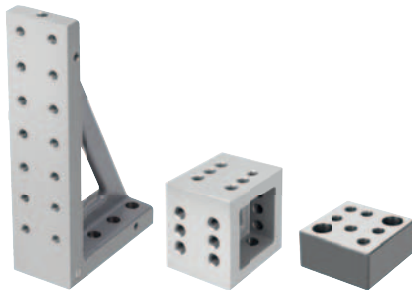
Workholding pyramid
mineral cast
K1235



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Add-on elements



Riser blocks, grey cast iron
Form H, long version
K1536



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Fastening blocks
Form M
K0810



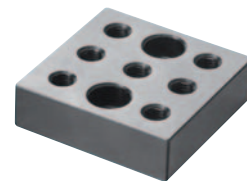
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Precision riser blocks
Form D
K0811



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Precision riser blocks
Form M
K0811



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Precision riser blocks
Form E
K0811



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Round positioning plates
K0812



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Angle plates, grey cast iron, narrow
with pre-machined clamping faces
K0807



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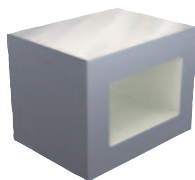
Angle plates, grey cast iron, narrow
with grid holes
K0807



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Tooling blocks, grey cast iron
with pre-machined
clamping faces
K0809



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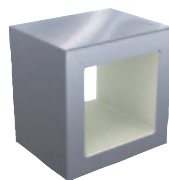
Tooling blocks, grey cast iron
with grid holes
K0809



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Mini tooling blocks,
grey cast iron
with pre-machined clamping faces
K0809



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Mini tooling blocks,
grey cast iron
with grid holes
K0809



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Riser blocks, grey cast iron
Form H, short version
K1536



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Fastener elements, Accessories



Aluminium protection plugs
K0862



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Threaded bushings
for grid systems
K0863



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Connecting blocks
K0854



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Studs
DIN 6379
K0697



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Locating pins
K0855



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Extension nuts
height 3xD
K0865



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Centring pins
for central hole
K0856



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Hexagon nuts with collar
height 1.5xD,
DIN 6331 enhanced
K0701



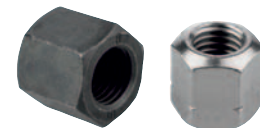
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Centring pins
for aligning hole
K0857



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Hexagon nuts
height 1.5xD,
DIN 6330 enhanced
K0702



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Centring pins
for aligning hole
K0858



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Washers for clamps
DIN 6340
K0867



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Locating sleeve
K0814



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C-washers
DIN 6372, enhanced
K0730



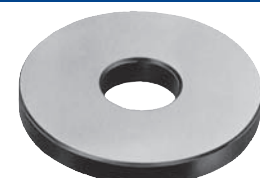
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Locating bushings
for grid systems
K0861



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Spacing washers
K0860



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Fastener elements, Accessories

Washers
medium,
DIN EN ISO 7089 A
K0868



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Spherical washers
DIN 6319, 10/01
K0729



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Washers plastic
captive
K1526



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Socket head screws
DIN 912 / DIN EN ISO 4762
K0869



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Hexagon head bolts
DIN EN ISO 4014 / DIN EN 24014
K0870



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Hexagon head bolts
full thread DIN 933
K0871



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Ring bolts
DIN 580
K0767



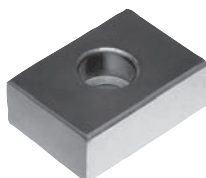
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Ring nuts
DIN 582
K0768



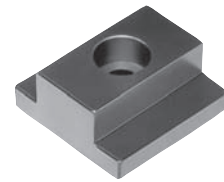
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Slot keys
K0864



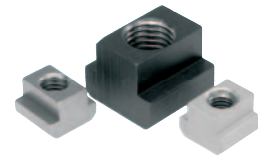
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T-slot keys
K0954



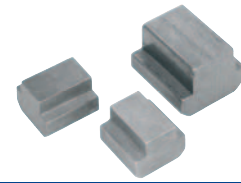
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Nuts for T-slots
DIN 508 enhanced
K0377



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Nuts for T-slots
blanks
K0378



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Nuts for T-slots
rhombic form
K0379



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T-slot bolts
DIN 787
K0698



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T-slot bolts
DIN 787, 12.9
K0699



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C-washers
captive,
with shoulder screw
K0872



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C-washers captive
DIN 6371
K0703



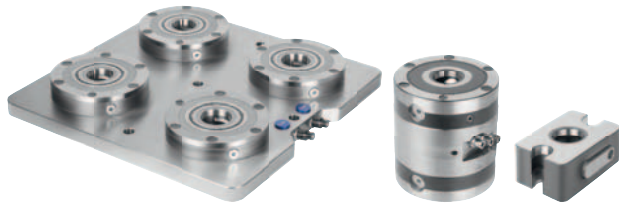
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Dowel pin puller
K0873

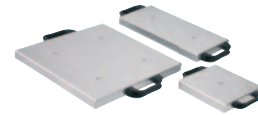


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Zero-point clamping system



Interchangeable subplates
for UNI lock zero-point
clamping system
K1218



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UNI lock clamping pin
size 80 mm
K0967



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UNI lock clamping pin
with through hole,
system size 80 mm
K1471



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Protective bolt
for clamping module
K1010



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Protective plug
for clamping module
K1010



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Quick-fit couplings
K1011



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Feedback sensor
for UNI lock installation
clamp K1385
K1484



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Feedback sensor
for UNI lock installation
clamp K1389
K1485



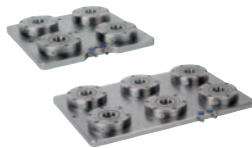
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UNI lock clamping station
K1009



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UNI lock clamping station
K1009



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UNI lock installation clamp
K1003



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UNI lock installation clamp
K1385



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UNI lock mounting clamps
K1389



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UNI lock double
clamping module
K1122



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UNI lock manual
clamping module
K1123



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5-axis module clamping system 80



UNI lock 5-axis reducer adapter
size 80 mm
K0966



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Angle clamp adapters
size 80 mm
K1013



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UNI lock 5-axis basic module
system size 80 mm
K0960



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UNI lock T-slot centring
clamp bolt
size 80 mm
K0969



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UNI lock 5-axis basic module
double clamp
size 80 mm
K0961



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UNI lock clamping pin
size 80 mm
K0967



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UNI lock 5-axis base plate
for general clamping,
system size 80 mm
K0962



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UNI lock clamping pin
with through hole,
system size 80 mm
K1471



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UNI lock 5-axis add-on
clamping module
size 80 mm
K0963



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UNI lock clamping pin
one-piece size 80 mm
K0967



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UNI lock 5-axis collet adapter
size 80 mm
K0964



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UNI lock clamping pin
with threaded pin size 80 mm
K0967



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UNI lock 5-axis face-grip adapter
size 80 mm
K0965



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UNI lock clamping bolts
for fastening to workpieces
size 80 mm
K0968



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UNI lock 5-axis reducer adapter
size 80 mm
K0966



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UNI lock 5-axis shoulder screws
size 80 mm
K0970



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5-axis module clamping system 80

UNI lock 5-axis shoulder screws for fastening to workpieces size 80 mm
K0971



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Centring clamping bolt size 80 mm
K1012



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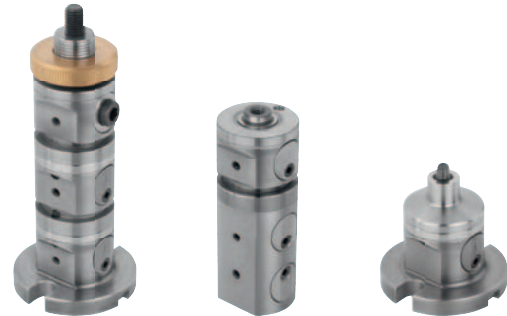
Torque wrench for 5-axis module clamping system
K1488



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5-axis module clamping system 50



UNI lock 5-axis basic module system size 50 mm
K1117



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UNI lock 5-axis basic module adjustable system size 50 mm
K1117



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UNI lock 5-axis basic module double clamp system size 50 mm
K1118



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UNI lock 5-axis add-on module system size 50 mm
K1119



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UNI lock 5-axis add-on module adjustable system size 50 mm
K1119



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UNI lock 5-axis reducer adapter system size 50 mm
K1120



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UNI lock clamping pin system size 50 mm
K1121



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5-axis module clamping system 138



UNI lock 5-axis basic module
system size 138 mm
K1419



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UNI lock 5-axis baseplate
for general clamping,
size 138 mm
K1420



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UNI lock 5-axis reducer
adapter system
size 138 mm
K1422



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UNI lock 5-axis reducer
adapter system
size 138 mm
K1423



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UNI lock clamping
pin system
size 138 mm
K1424



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Locating and clamping systems



Locating cylinder
Ball Lock
K0935

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Locating cylinder
stainless steel
Ball Lock
K1474



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Locating cylinder
with quick clamping system
K0935



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Centring bushes
K0936



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Centring bushes
stainless steel
K1475



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Receiver bushes
Form A
(pressed in from rear)
K0937



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Receiver bushes, stainless steel
Form A
(pressed in from rear)
K1476



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Receiver bushes
Form B
(screwed down from front)
K0938



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Receiver bushes, stainless steel
Form B
(screw front side)
K1477



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Locating cylinders
pneumatic
K1219



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Locating bushes
for pneumatic locating cylinder
K1220



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Locating cylinders
pneumatic
K1486



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Locating bushes
for pneumatic locating cylinder
K1487



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KIPPflexX 5-axis vice

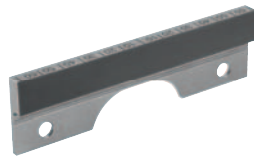


KIPPflexX 5-axis vice
jaw plates smooth
K1555



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Smooth jaw plates
KIPPflexX 5-axis vice
K1557



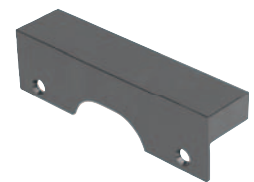
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Jaw plates with pins
KIPPflexX 5-axis vice
K1557



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Jaw plates
machinable
K0975



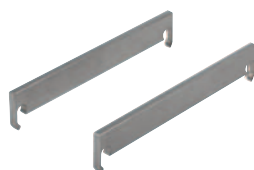
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Seating ledges
screw-on
K0974



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Seating ledges
K0974



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Extension shafts
K0990



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Extension shafts
K0990



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Baseplates
KIPPflexX 5-axis vice
K1556



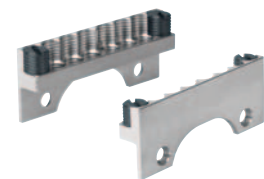
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Jaw pins
K0946



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Cylinder clamping sets
K0989



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Couplings
for cross-clamping
K0992



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Stop sets
K0993



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Clamping claw sets
K1008



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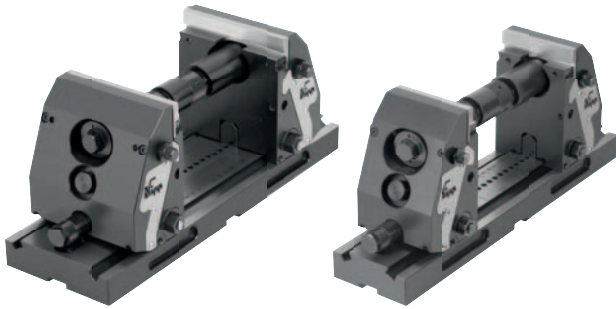
Torque wrench
for 5-axis clamping system
K1489



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5-axis clamping system compact



Adapter shafts
K0991



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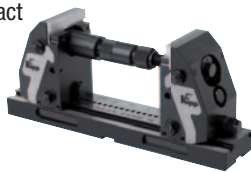


Base plates
K0994



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5-axis clamping system compact
smooth vice jaws
K0973



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Vice jaws complete
K0976



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Jaw plates smooth
K0975



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Pendulum jaws
K0988



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Jaw plates with pins
K0975



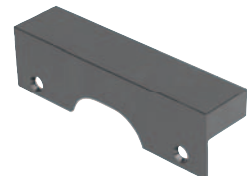
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Jaw plates smooth
for pendulum jaws
K1001



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Jaw plates
machinable
K0975



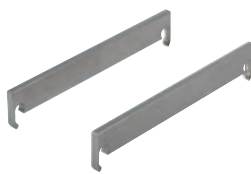
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Jaw plates with pins
for pendulum jaws
K1001



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Seating ledges
K0974



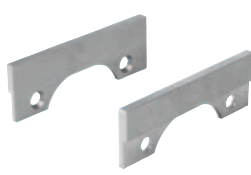
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Centre jaws
K0987



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Seating ledges
screw-on
K0974



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Jaw plates smooth
for centre jaws
K1002



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Extension shafts
K0990



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Jaw plates with pins
for centre jaws
K1002



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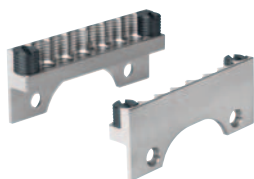
5-axis clamping system compact

Jaw pins
K0946



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Cylinder clamping sets
K0989



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Couplings
for cross-clamping
K0992



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Stop sets
K0993



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Clamping claw sets
K1008

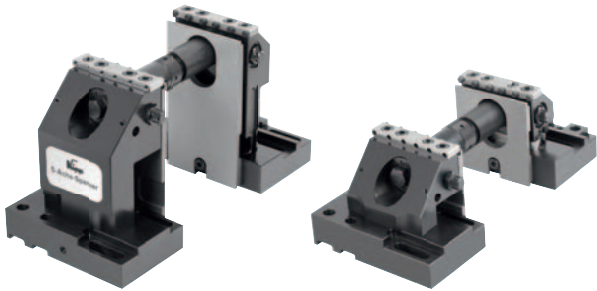


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3-axis clamping system, 5-axis clamping system



Jaw plates machinable
K0944



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Draw-down jaws
K0953



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3-axis clamping system
for grid plates
K0939



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Jaw adapters
for round workpieces
K0945



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3-axis clamping system
for T-slots
K0940



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Jaw pins
K0946



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5-axis clamping system
for grid plates
K0939



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Extension shafts
with union nut
K0947



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5-axis clamping system
for T-slots
K0940



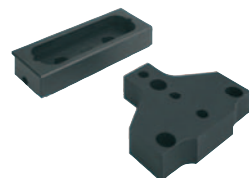
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Stop set
K0948



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Riser plates
K0941



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Shoulder screws
Form B
K0815



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Seating ledges
K0942



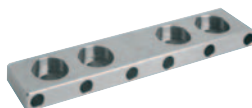
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Fastening set
for T-slots
K0951



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Jaw plates standard
K0943



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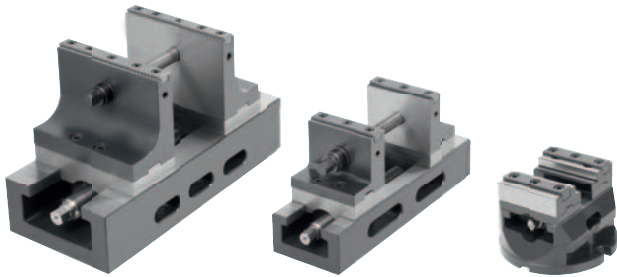
T-slot plate
K0952



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Centric vices



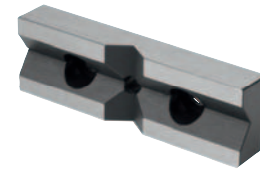
Jaw pads
for centric vice
65–80–125 mm
K0598



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Prism jaw pads
for centric vice,
65–80–125 mm
K1375



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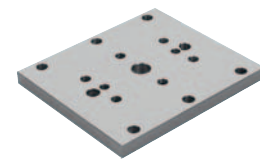
Hinged stops
K0607



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Baseplate
for centric vice
K1274



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Centric vices
jaw width 65 mm
K1236



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Centric vices
jaw width 80–125 mm
K1237



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Attachment jaws
stepped, with grip rail
K0587



Page 552

Step jaw attachment
for 5-axis machining
K1115



Page 553

Inserts
for stepped jaw
K0591



Page 554

Attachment step jaws
for centric vice,
jaw width 65 mm
K1383



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Attachment step jaws
for centric vice,
jaw width 80–125 mm
K1384

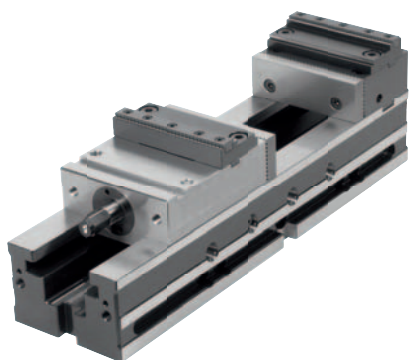


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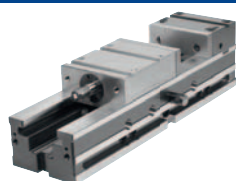




NC Vices



NC vice
jaw width 125 mm
K1238



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Attachment step jaw
with gripper for NC vice
K1273



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Prism jaws
for NC vice
K1376



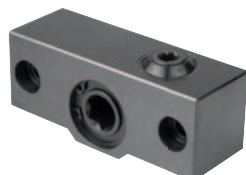
Page 564

Hold-down jaw pads
with spring blade
for NC vice
K0601



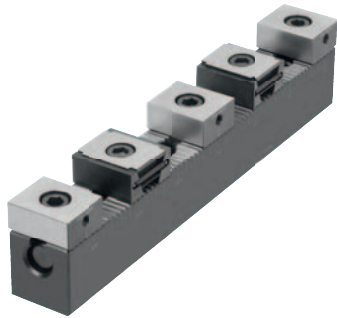
Page 565

Angle drives
for NC vice
K1377



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Multi-clamping system

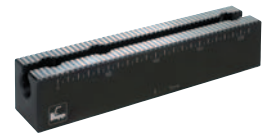


Stop with positive down force
K0907



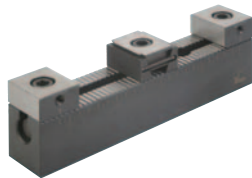
Page 575

Base rails
K0904



Page 576

Multi-clamping system
hard stops
K0902



Page 570

Seating ledges
K0908



Page 577

Multi-clamping system
soft stops
K0903



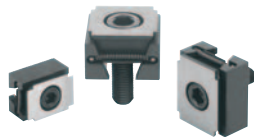
Page 571

Keyway nuts round
K0909



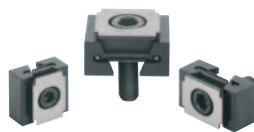
Page 577

Wedge clamps
jaw face smooth or serrated
K0039



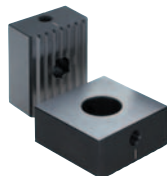
Page 572

Wedge clamps
machinable
K0649



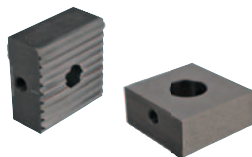
Page 573

Stops
K0905



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Stop
carbide-coated and serrated
K0905



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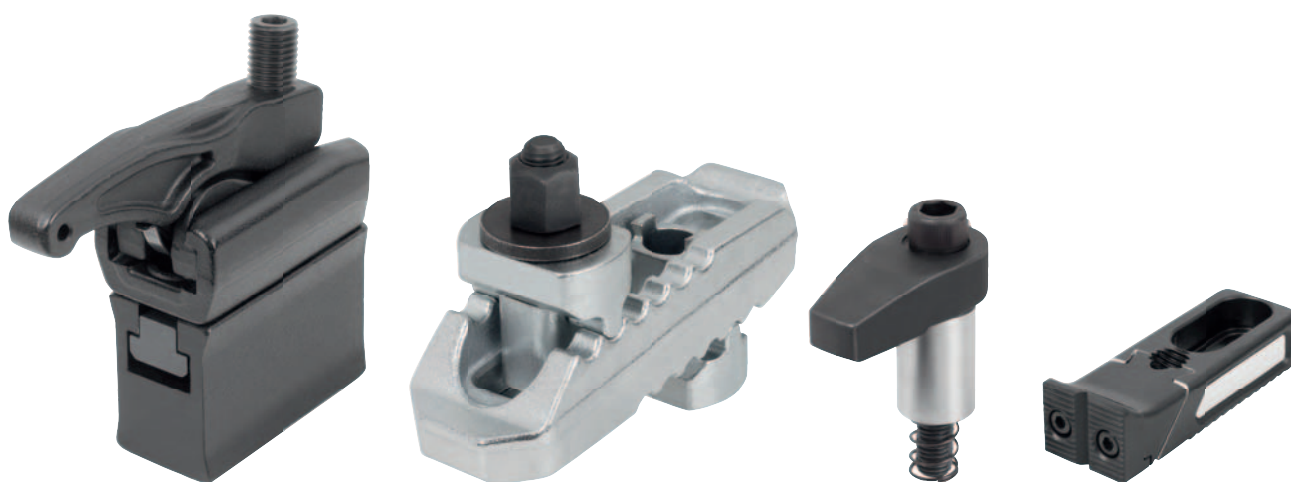
Stop prism
K0906



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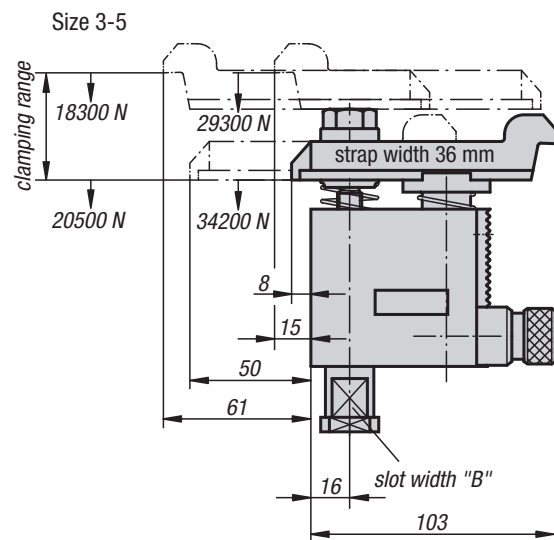
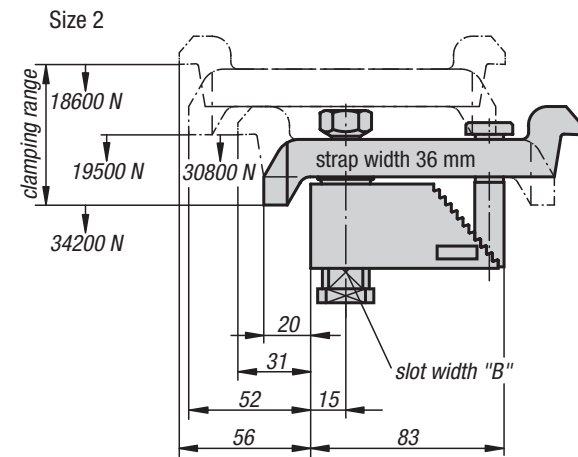
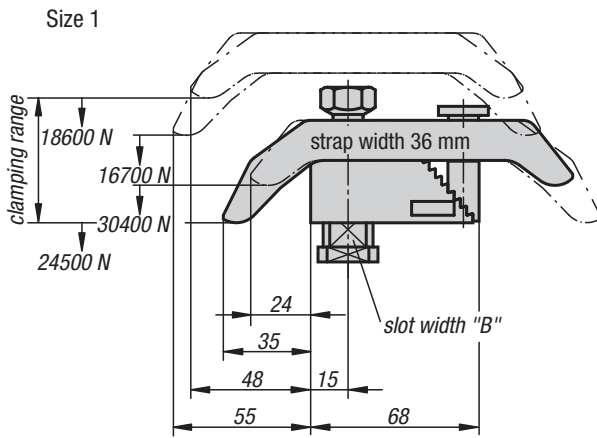


Clamping elements



Clamp straps

with adjustment unit



Material:

Base, ductile iron.

Clamp strap and clamping screw carbon steel.

Version:

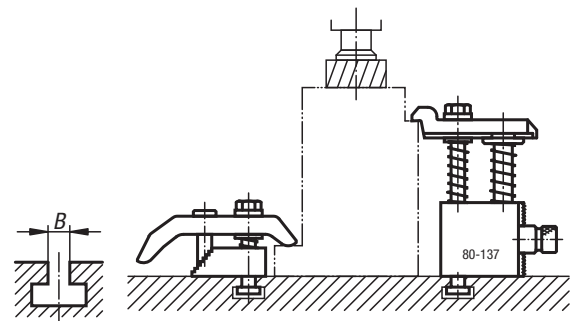
Black oxidised.

Sample order:

K0004.40X16 (include slot width B)

Note:

These clamp strap modules are universal, flexible clamps constructed from individual components building a compact unit. There are no loose parts which first have to be altered for a clamping operation. The compact design allows these clamps to be placed close to the workpiece enabling the full area of the machine table to be used.

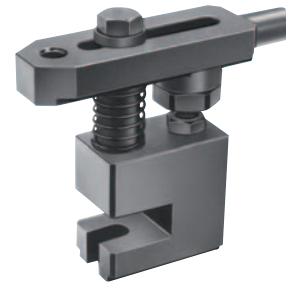


KIPP Clamp straps with adjustment unit

Order No.	Size	Clamp range	Slot width B DIN 650
K0004.10X	1	0-35	12/14/16/18
K0004.20X	2	25-85	12/14/16/18
K0004.30X	3	80-137	12/14/16/18
K0004.40X	4	125-224	12/14/16/18
K0004.50X	5	160-300	12/14/16/18

Clamping units

pin-end strap



Material, version:

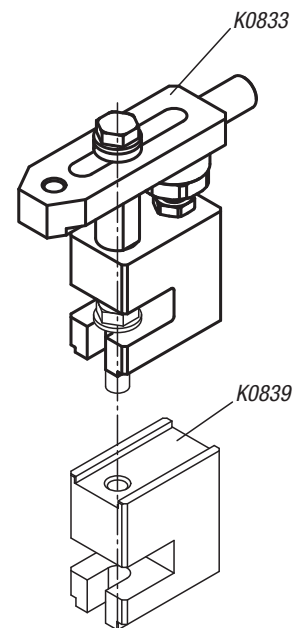
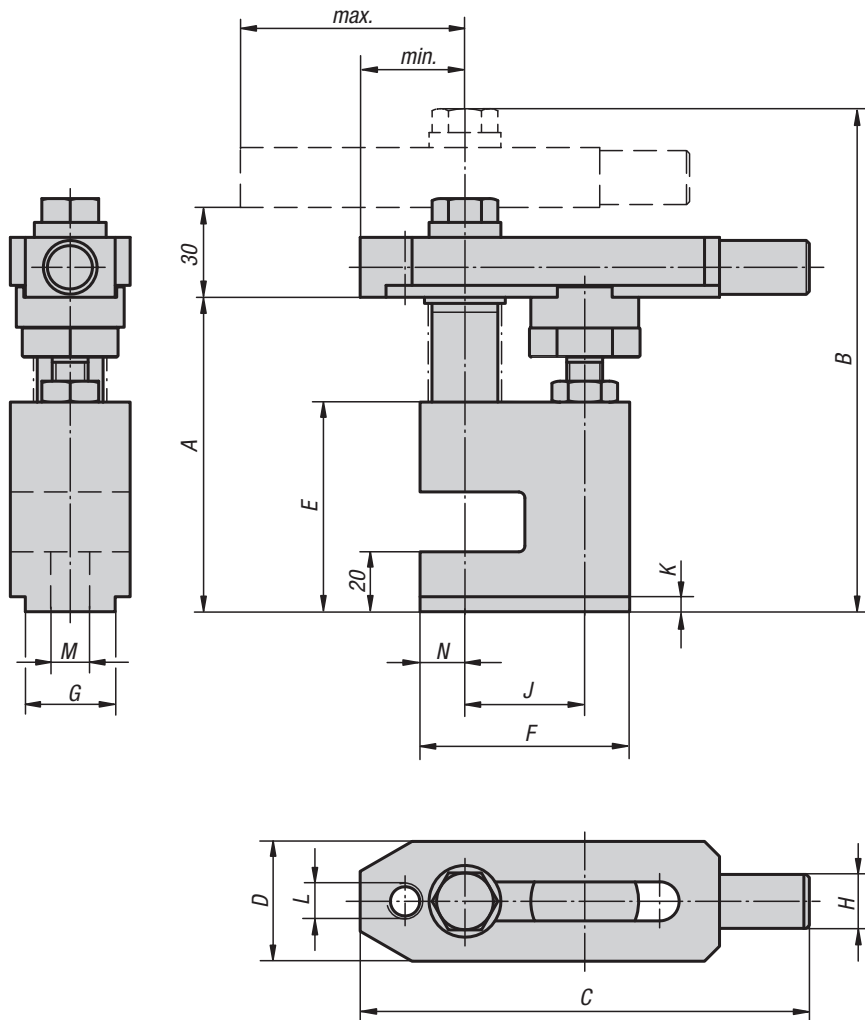
Body carbon steel, black oxidised.
Strap carbon steel, tempered and black oxidised.
Clamping screw carbon steel, tempered and black oxidised.

Sample order:

K0833.12105

Note:

Both ends of the strap can be used for clamping workpieces. The clamps can be combined with other fixture elements, such as K0839, K0821, K0307.

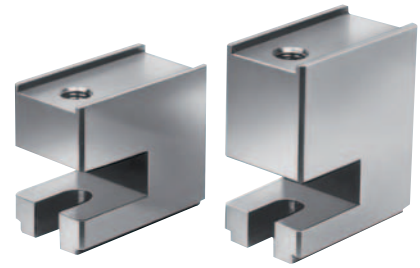


KIPP Clamping units, pin-end strap

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	min.	max.
K0833.12105	105	168	150	40	70	70	30	18	40	5	M12	13	15	35	75
K0833.16110	110	188	190	50	75	90	40	24	50	5	M16	17	20	45	95

Riser blocks

Form P

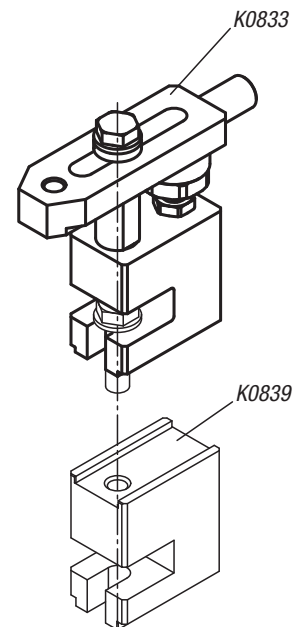
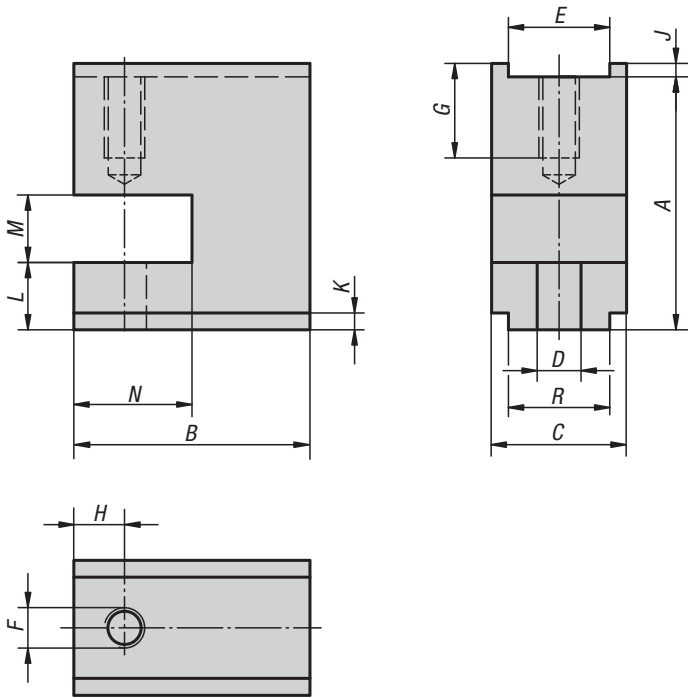


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0839.12075

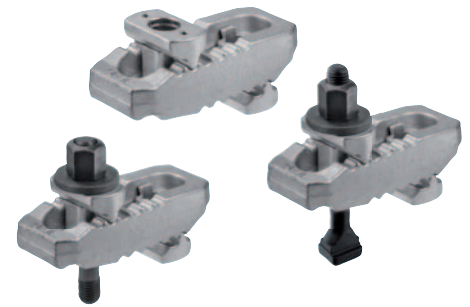
Note:
These riser blocks Form P are used together with clamping straps to clamp high workpieces.



KIPP Riser blocks Form P

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	R
K0839.12075	75	70	40	13	30	M12	24	15	4	5	20	20	35	30
K0839.12100	100	70	40	13	30	M12	24	15	3	5	20	20	35	30
K0839.16075	75	90	50	17	40	M16	30	20	4	5	20	20	45	40
K0839.16100	100	90	50	17	40	M16	30	20	3	5	20	20	45	40

Clamp strap assemblies



Material:
Steel.

Version:

Form A: Tempered and electro zinc-plated.

Form B: Tempered and electro zinc-plated.

Complete with DIN 787 screw for T-slots, DIN 6340 washer and DIN 6330B nut.

Form C: Tempered and electro zinc-plated.

Complete with DIN 6379 stud, DIN 6340 washer and DIN 6330B nut.

Sample order:

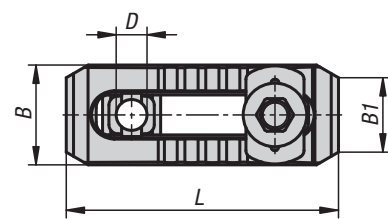
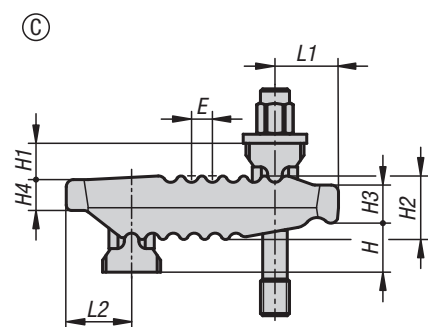
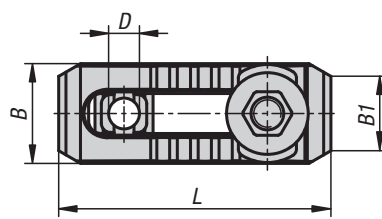
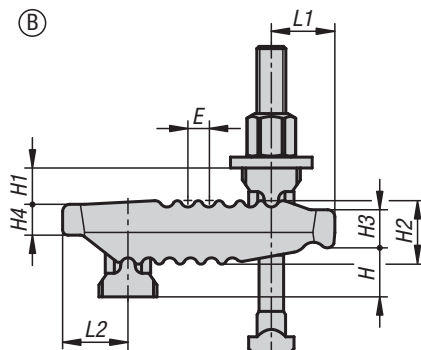
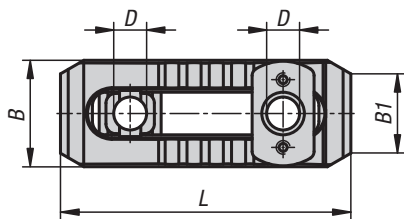
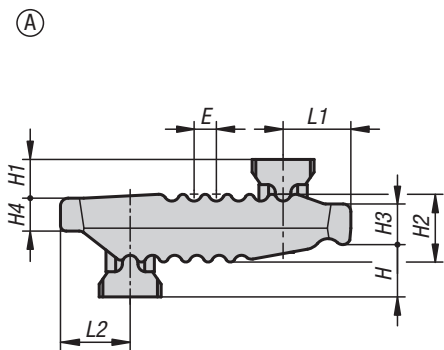
K1165.113115

Note:

These clamp strap assemblies can be quickly and infinitely adapted to the clamping situation. The clamp straps have different heel types both sides enabling the best end to be selected depending on the specific application. These extremely versatile clamp straps are suitable for use by metal cutting or non-cutting machining and also for press and injection-moulding applications.

Accessories:

K1204 Adjustable heel supports





KIPP Clamp strap assemblies

Order No.	Form	B	B1	D	E	H clamping range	H1	H2	H3	H4	L	L1	L2	Slot width	Clamping force kN
K1165.113115	A	44	30	13	11	0-55	18	27	17	12	115	25	30	10-12-14	30
K1165.117150	A	55	41	17	12	0-70	20	36	21	17	150	35	36	12-14-16-18	40
K1165.121187	A	62	30	21	14	0-80	30	42	27	20	187	44	44	16-18-20-22	60
K1165.125235	A	70	30	25	17	0-100	31	51	34	24	235	60	47	20-22-24-28	75
K1165.125285	A	73	30	25	17	0-100	35	56	35	24	285	62	51	20-22-24-28	75

Order No. with t-slot nut	Form	B	B1	D	E	H clamping range	H1	H2	H3	H4	L	L1	L2	Slot width	Fastening screw(s)	Clamping force kN
K1165.210115100	B	44	30	13	11	0-40	18	27	17	12	115	25	30	10	M10X100	25
K1165.212115125	B	44	30	13	11	0-55	18	27	17	12	115	25	30	12	M12X125	30
K1165.214115125	B	44	30	13	11	0-55	18	27	17	12	115	25	30	14	M12X125	30
K1165.212150160	B	55	41	17	12	0-70	20	36	21	17	150	35	36	12	M12X160	35
K1165.214150160	B	55	41	17	12	0-70	20	36	21	17	150	35	36	14	M12X160	35
K1165.216150160	B	55	41	17	12	0-70	20	36	21	17	150	35	36	16	M16X160	40
K1165.218150160	B	55	41	17	12	0-70	20	36	21	17	150	35	36	18	M16X160	40
K1165.216187200	B	62	30	21	14	0-80	30	42	27	20	187	44	44	16	M16X200	55
K1165.218187200	B	62	30	21	14	0-80	30	42	27	20	187	44	44	18	M16X200	55
K1165.220187200	B	62	30	21	14	0-80	30	42	27	20	187	44	44	20	M20X200	60
K1165.222187200	B	62	30	21	14	0-80	30	42	27	20	187	44	44	22	M20X200	60
K1165.220235250	B	70	30	25	17	0-100	31	51	34	24	235	60	47	20	M20X250	70
K1165.222235250	B	70	30	25	17	0-100	31	51	34	24	235	60	47	22	M20X250	70
K1165.224235250	B	70	30	25	17	0-100	31	51	34	24	235	60	47	24	M24X250	75
K1165.228235250	B	70	30	25	17	0-100	31	51	34	24	235	60	47	28	M24X250	75

Order No. with stud	Form	B	B1	D	E	H clamping range	H1	H2	H3	H4	L	L1	L2	Fastening screw(s)	Clamping force kN
K1165.312115100	C	44	30	13	11	0-30	18	27	17	12	115	25	30	M12X100	30
K1165.312115125	C	44	30	13	11	0-55	18	27	17	12	115	25	30	M12X125	30
K1165.312150125	C	55	41	17	12	0-50	20	36	21	17	150	35	36	M12X125	40
K1165.312150160	C	55	41	17	12	0-70	20	36	21	17	150	35	36	M12X160	40
K1165.316150125	C	55	41	17	12	0-40	20	36	21	17	150	35	36	M16X125	40
K1165.316150160	C	55	41	17	12	0-70	20	36	21	17	150	35	36	M16X160	40
K1165.320187160	C	62	30	21	14	0-40	30	42	27	20	187	44	44	M20X160	60
K1165.320187200	C	62	30	21	14	0-80	30	42	27	20	187	44	44	M20X200	60
K1165.320235200	C	70	30	25	17	0-70	31	51	34	24	235	60	47	M20X200	75
K1165.320235250	C	70	30	25	17	0-100	31	51	34	24	235	60	47	M20X250	75
K1165.324235200	C	70	30	25	17	0-50	31	51	34	24	235	60	47	M24X200	75
K1165.324235250	C	70	30	25	17	0-100	31	51	34	24	235	60	47	M24X250	75

Adjustable heel supports

for clamp strap assembly



Material:

Carbon steel.

Version:

Body tempered and electro zinc-plated.
Support bolt tempered, grade 8.8.

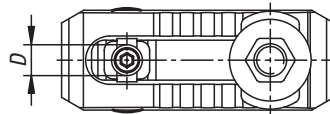
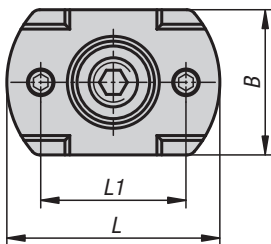
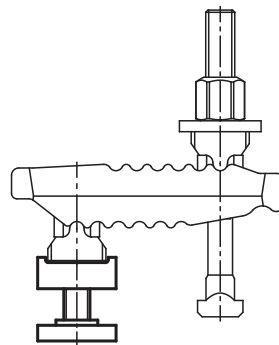
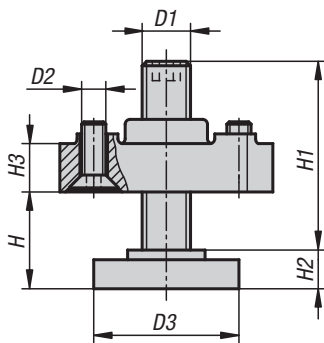
Sample order:

K1204.1039

Note:

These adjustable heel supports consist of support plate, support bolt and fastening screws for the strap heel support.

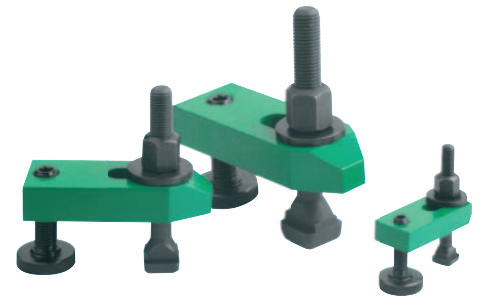
Adjustable heel supports are used to increase the clamping height of the clamp strap assemblies.



KIPP Adjustable heel supports for clamp strap assembly

Order No.	B	D	D1	D2	D3	H clamping range	H1	H2	H3	L	L1
K1204.1039	30	13	M10	M5	30	8-30	39	8	10	44	30
K1204.1249	42	17	M12	M5	36	10-37	49	10	16	54	35
K1204.1294	42	17	M12	M5	36	10-80	94	10	16	54	35
K1204.1655	50	21	M16	M5	42	13-41	55	13	20	60	40
K1204.1690	50	21	M16	M5	42	13-73	90	13	20	60	40
K1204.2069	50	25	M20	M6	50	16-52	69	16	25	70	50
K1204.20109	50	25	M20	M6	50	16-91	109	16	25	70	50

Clamp strap assemblies



Material:

Carbon steel.
Screws tempered to 8.8.

Version:

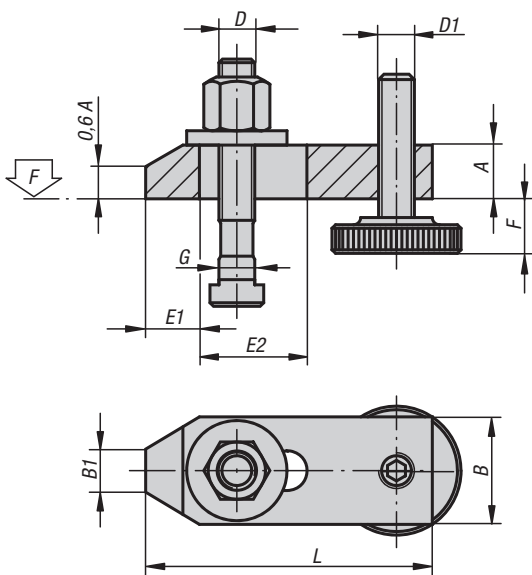
Clamp painted. Screws black oxidised.

Sample order:

K0003.1616

Note:

"F" is dependent on the depth of the DIN 650 slot.

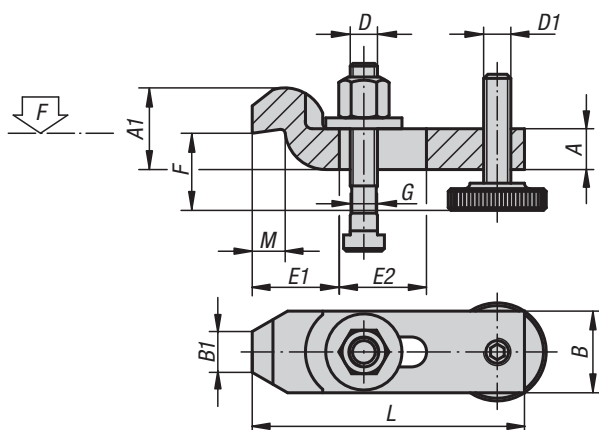
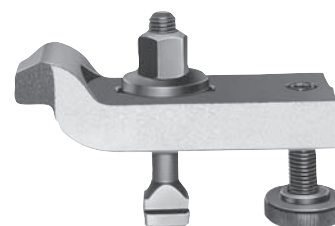


KIPP Clamp strap assemblies

Order No.	L	A	B	B1	E1	E2	F	G for T-slot	D	D1	F kN
K0003.1010	80	15	30	12	15	30	8-32	10	M10x80	M10	13,9
K0003.1212	100	20	40	14	21	40	10-40	12	M12x100	M12	20,2
K0003.1214	100	20	40	14	21	40	10-38	14	M12x100	M12	20,2
K0003.1616	125	25	50	18	26	45	13-49	16	M16x125	M16	37,8
K0003.1618	125	25	50	18	26	45	13-46	18	M16x125	M16	37,8
K0003.2020	160	30	60	22	30	60	16-65	20	M20x160	M20	58,8
K0003.2022	160	30	60	22	30	60	16-65	22	M20x160	M20	58,8

Clamp strap assemblies

goose-neck



Material:

Carbon steel.
Screws tempered to 8.8.

Version:

Straps painted.
Screws black oxidised.

Sample order:

K1450.1616

Note:

“F” is dependent on the depth of the DIN 650 slot.

KIPP Clamp strap assemblies, goose-neck

Order No.	L	A	A1	B	B1	E1	E2	F	G for T-slot	D	D1	M	F kN
K1450.1010	100	15	30	30	15	32	32	22-46	10	M10x80	M10	12	13,9
K1450.1212	125	20	40	40	20	40	40	28-58	12	M12x100	M12	16	20,2
K1450.1214	125	20	40	40	20	40	40	28-56	14	M12x100	M12	16	20,2
K1450.1616	160	25	50	50	25	49	50	36-72	16	M16x125	M16	20	37,8
K1450.1618	160	25	50	50	25	49	50	36-69	18	M16x125	M16	20	37,8
K1450.2020	200	30	60	60	30	55	70	43-92	20	M20x160	M20	24	58,8
K1450.2022	200	30	60	60	30	55	70	43-92	22	M20x160	M20	24	58,8

Power clamp



Material:

Carbon steel.

Version:

Forged, black electro zinc-plated.

Sample order:

K1205.112135

Note:

We recommend using a lubricating paste to reduce wear to the adjustment screw.

Risers are available to increase the height of the power clamp.

Supplied with clamping element, support element, DIN 508 slot key and grade 12.9 bolt.

Application:

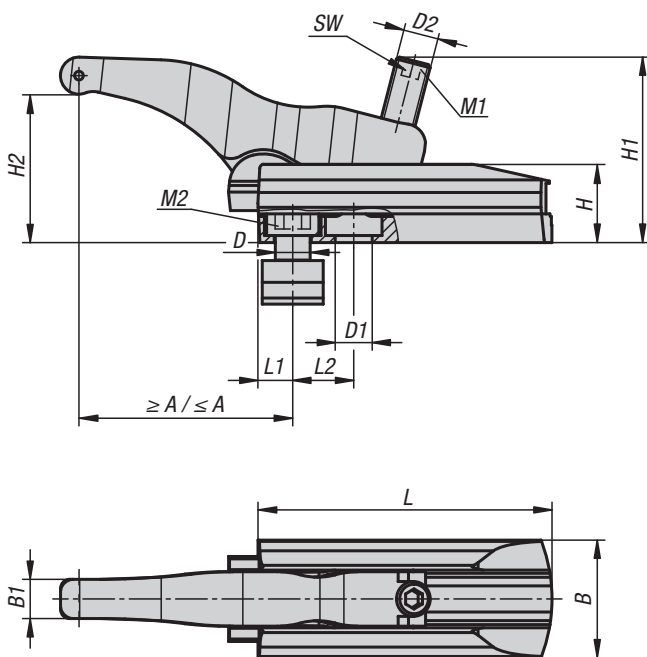
The height of the clamping arm can be infinitely adjusted using the adjustment screw and the workpiece can then be clamped.

Advantages:

- Very high retaining forces of 30–49 kN.
- Low height.
- Simple element assembly.
- Enables very fast, simple clamping.
- Infinitely adjustable height and length.
- Use in 14-28 mm T-slots or M12, M16, M20 grid systems.
- Thrust pad available in smooth and serrated versions.

Accessories:

- Raiser K1206
- Thrust pads K1215

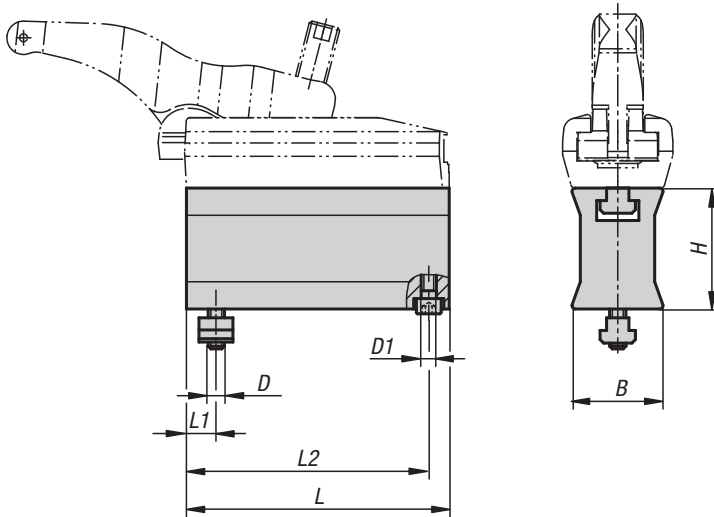


KIPP Power clamp

Order No.	Version 1	H2	A min.	A max.	B	B1	Slot width	D	D1	D2	H	H1	L	L1	L2	SW	Clamping force kN	Tightening torque M1 Nm	Tightening torque M2 Nm
K1205.112135	long	6-68	13	110	54	18	14	M12	13	M16	36	85	135	13	25	8	30	100	70
K1205.116135	long	6-68	16	114	54	18	18	M16	17	M16	36	85	135	16	28	8	30	100	150
K1205.116155	long	5-80	16	134	60	20	18	M16	17	M20	42	105	155	16	32	10	43	220	150
K1205.120175	long	7-88	19	165	75	25	22	M20	21	M24	52	125	175	19	36	12	49	220	200
K1205.212095	short	6-50	12	82	54	18	14	M12	13	M16	36	78	95	12	20	8	32	120	70
K1205.216110	short	6-50	15	95	60	20	18	M16	17	M20	42	92	110	15	26	10	40	150	150

Risers

for power clamp



Material:

Carbon steel.

Version:

Forged, black electro zinc-plated.

Sample order:

K1206.012060

Application:

The raiser is positioned and fastened to the machine table, the power clamp is then screwed onto the raiser. By turning the adjustment screw on the power clamp, the height of the clamping arm can be infinitely adjusted and the workpiece clamped.

Advantages:

- Other clamping heights can be achieved by mounting multiple risers one on the other.
- Infinite transition between clamping heights.
- Simple element assembly.
- For use in 14-28 mm T-slots or M12, M16, M20 grid systems.

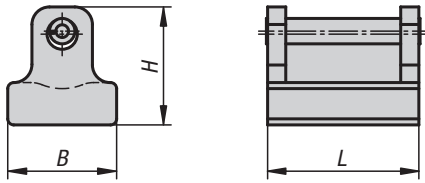
KIPP Raiser for power clamp

Order No.	Version 2	Slot width	B	D	D1	H	L	L1	L2	Clamping force kN
K1206.012060	long	14	45	M12	M8	60	135	12	127	30
K1206.016070	long	18	48	M16	M8	70	155	16	145	43
K1206.020080	long	22	58	M20	M10	80	175	19	165	49
K1206.112060	short	14	44,5	M12	M8	60	95	12	88	32
K1206.116070	short	18	47,5	M16	M8	70	110	16	100	40

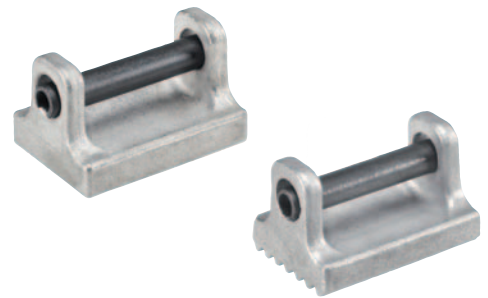
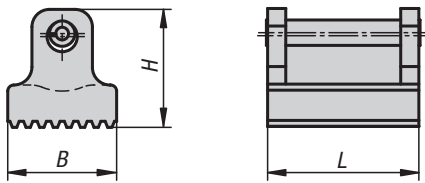
Thrust pads

for power clamp

Ⓐ



Ⓑ



Material:
Stainless steel

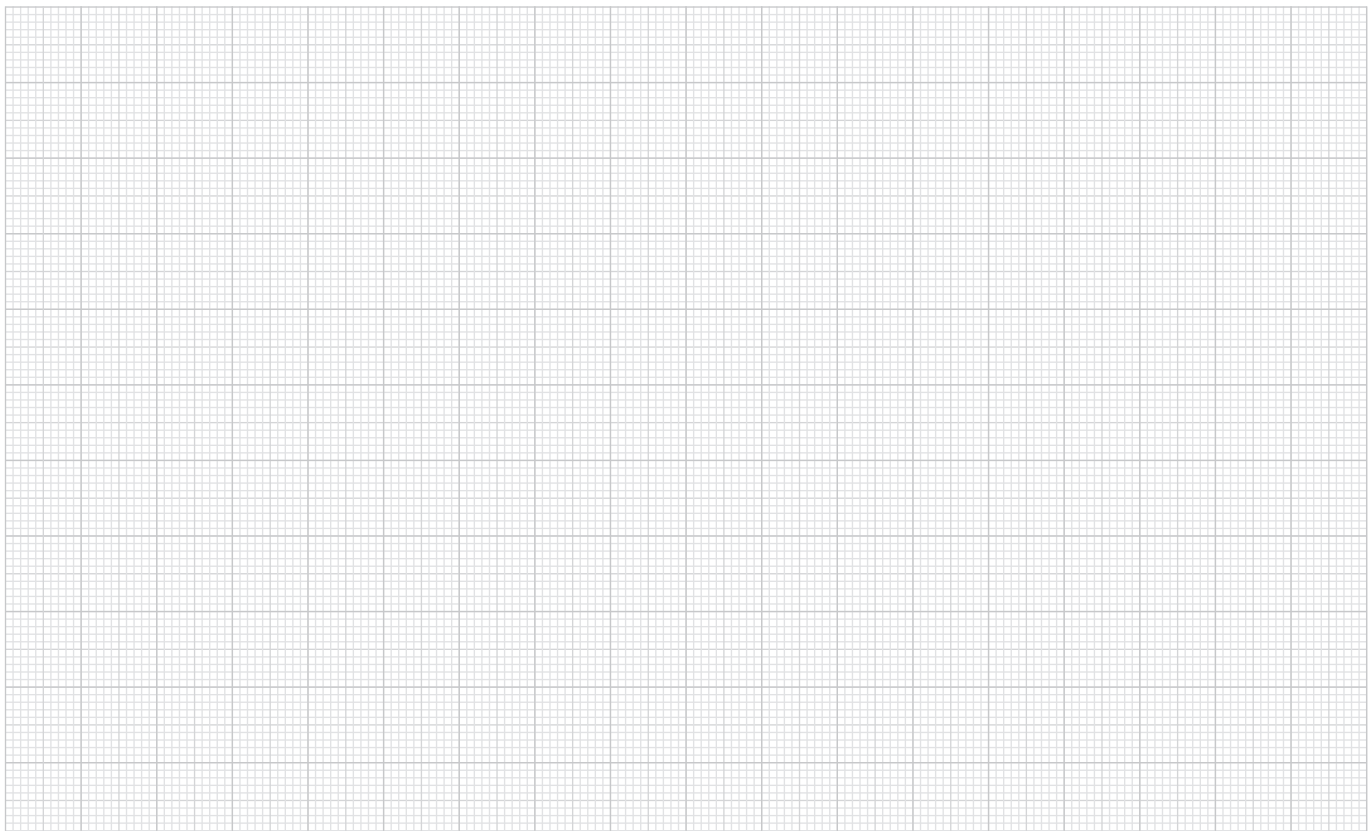
Sample order:
K1215.025

Note:
Power clamps can be fitted with serrated or smooth thrust pads.

KIPP Thrust pads for power clamp

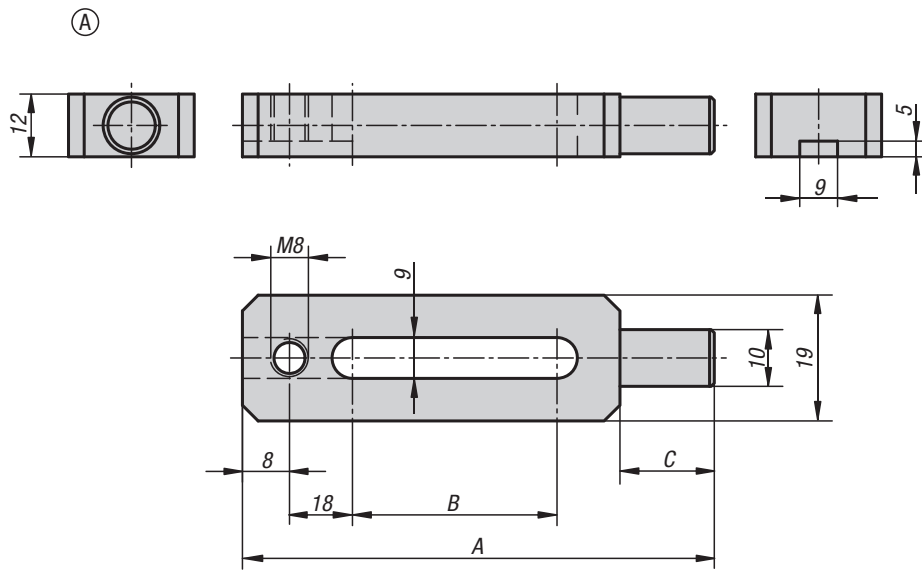
Order No. Form A smooth	Order No. Form B serrated	B	H	L
K1215.025	K1215.125	18	19,5	25
K1215.030	K1215.130	20	24	30
K1215.036	K1215.136	25	28	36

Notes



Clamp straps

pin-end

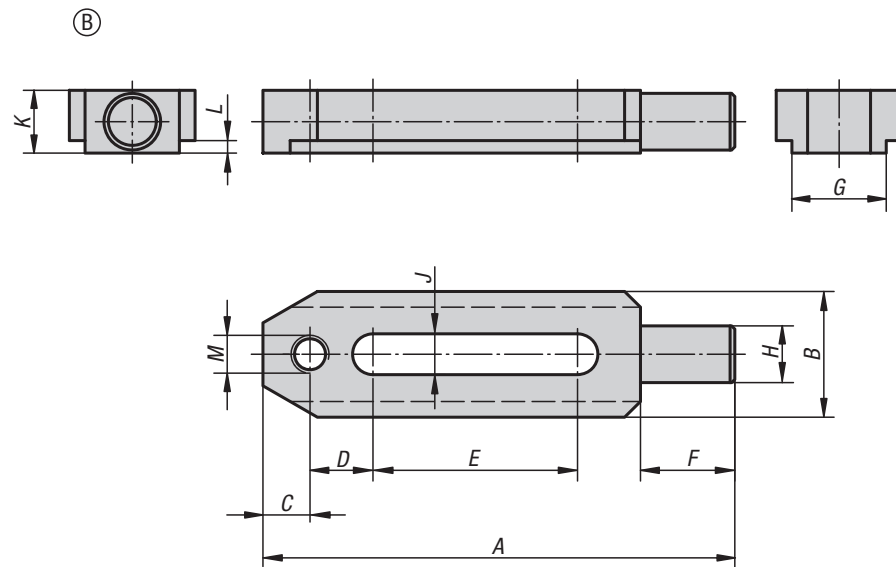


Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0834.08063

Note:
Pin-end straps can be used in conjunction with other fixture elements, such as K0839, K0821, K0307.



KIPP Pin-end straps Form A

Order No.	A	B	C
K0834.08063	63	15	14
K0834.08075	75	20	20

KIPP Pin-end straps Form B

Order No.	A	B	C	D	E	F	G	H	J	K	L	M
K0834.12150	150	40	15	20	65	30	30	18	13	20	4	M12
K0834.16190	190	50	20	25	80	36	40	24	18	28	5	M16

Clamp straps

slotted heel



Material:

Carbon steel 1.1191

Version:

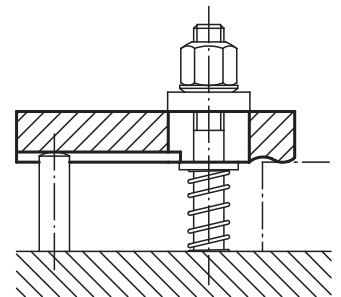
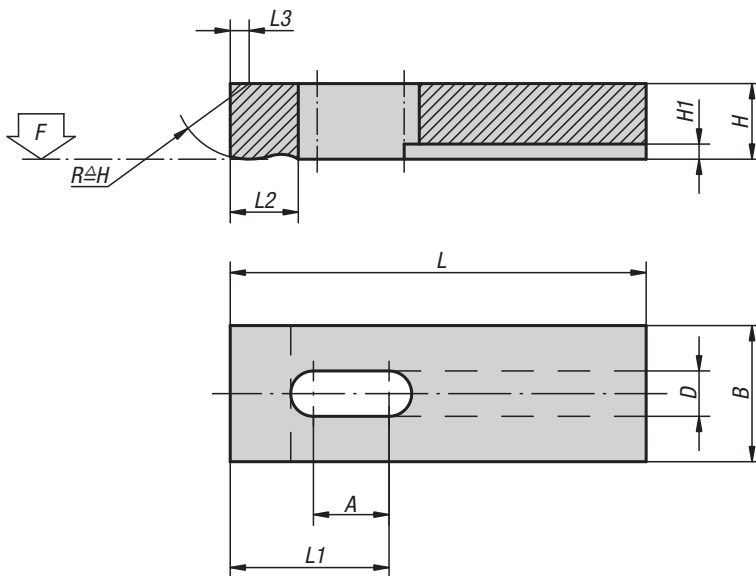
Black oxidised.

Sample order:

K0001.101

Note:

For suitable supports and adjustable rest pads, see K0305 and K0306.



KIPP Clamp straps, slotted heel

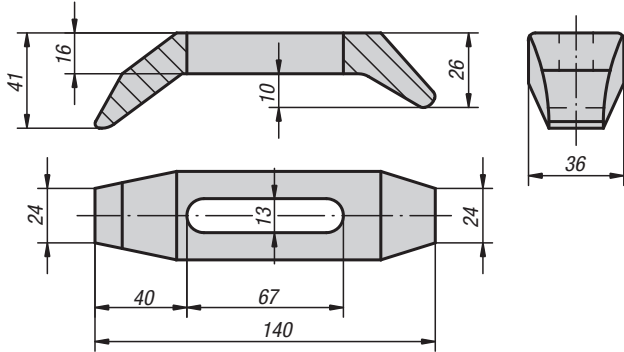
Order No.	A	B	D	H	H1	L	L1	L2	L3	F kN
K0001.05	8	12	5,5	8	3	32	14	8	1,2	3,42
K0001.06	10	16	7	10	3	40	17	10	1,6	4,82
K0001.08	12	20	9	12	4	50	22	12	2	8,77
K0001.10	16	25	11	16	4,5	63	28	16	2,5	13,9
K0001.12	20	32	14	20	5	80	35	20	3	20,2
K0001.14	25	40	16	25	6	100	44	25	4	27,6
K0001.16	42	50	18	30	6	160	73	32	5	37,8
K0001.20	52	60	22	30	8	200	92	40	6	58,8
K0001.051	13	12	5,5	8	3	50	23	8	1,2	3,42
K0001.061	17	16	7	10	3	63	29	10	1,6	4,82
K0001.081	21	20	9	12	4	80	37	12	2	8,77
K0001.101	26	25	11	16	4,5	100	46	16	2,5	13,9
K0001.121	33	32	14	20	5	125	58	20	3	20,2
K0001.141	42	40	16	30	6	160	74	25	4	27,6

Clamp straps

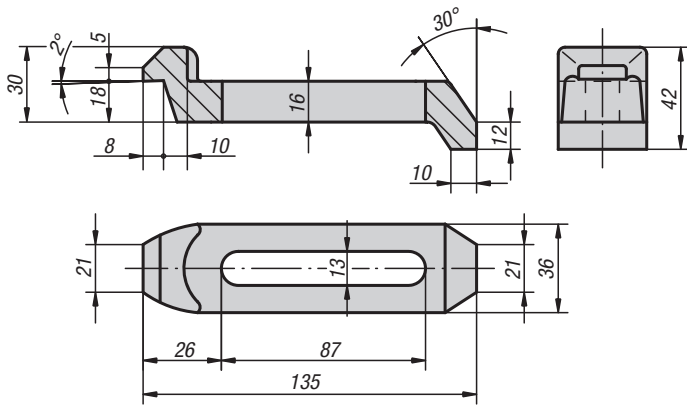
goose-neck



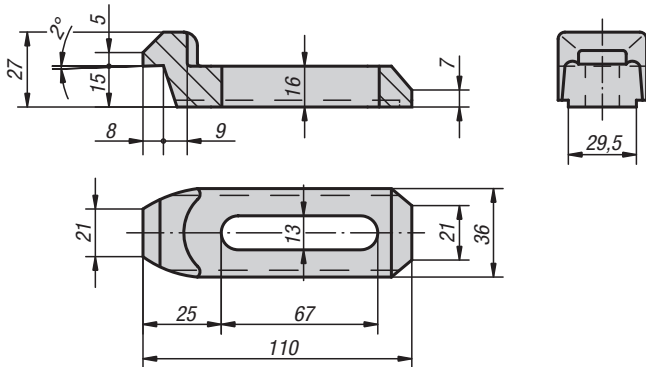
K0002.01 (0,5 kg)



K0002.05 (0,48 kg)



K0002.10 (0,35 kg)



Material:

Carbon steel 1.7225

Version:

Tempered to 1000 N/mm², black oxidised.

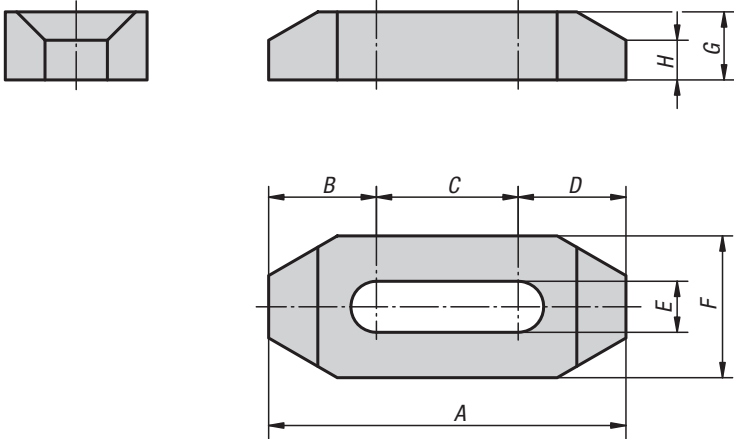
Sample order:

K0002.10

KIPP Clamp straps goose-neck

Order No.	Item
K0002.01	Clamp Strap
K0002.05	Clamp Strap
K0002.10	Clamp Strap

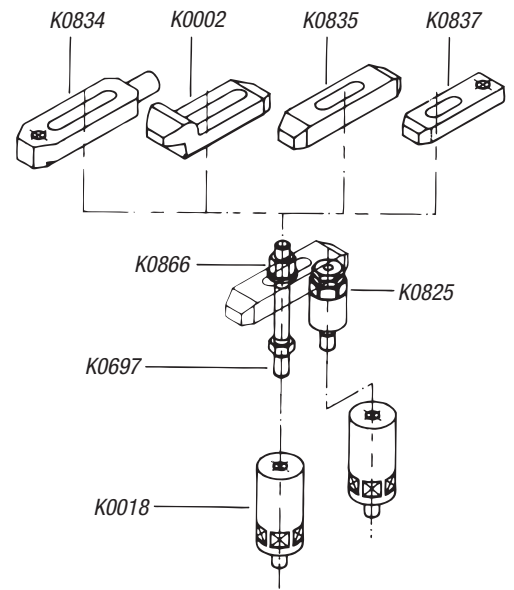
Clamp straps



Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0835.08063



KIPP Clamp straps

Order No.	A	B	C	D	E	F	G	H
K0835.08063	63	19	25	19	9	25	12	7
K0835.08080	80	24	32	24	9	25	12	7
K0835.08100	100	30	40	30	9	25	16	10
K0835.10063	63	19	25	19	11	25	12	7
K0835.10080	80	24	32	24	11	25	16	10
K0835.10100	100	30	40	30	11	25	16	10
K0835.10125	125	40	45	40	11	32	19	13
K0835.10160	160	55	50	55	11	32	19	13
K0835.12063	63	19	25	19	13	32	16	10
K0835.12080	80	24	32	24	13	32	16	10
K0835.12100	100	30	40	30	13	32	19	13
K0835.12125	125	40	45	40	13	32	19	13
K0835.12160	160	55	50	55	13	32	25	15
K0835.16080	80	27,5	25	27,5	17	32	16	10
K0835.16100	100	34	32	34	17	38	19	13
K0835.16125	125	42,5	40	42,5	17	38	19	13
K0835.16160	160	55	50	55	17	38	25	15
K0835.20100	100	34	32	34	21	38	19	13
K0835.20125	125	42,5	40	42,5	21	38	25	15
K0835.20160	160	55	50	55	21	38	25	15
K0835.20200	200	68,5	63	68,5	21	50	25	15

Clamp straps

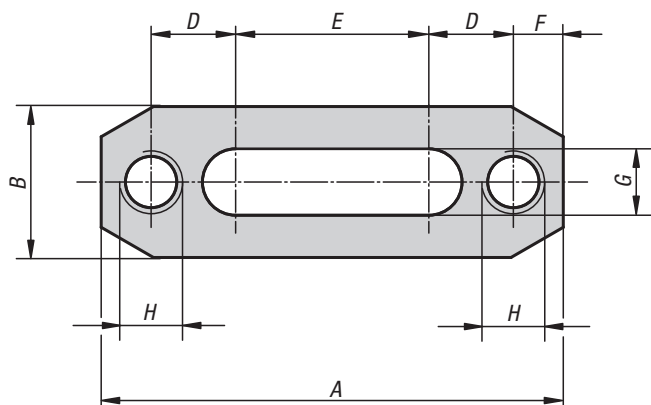
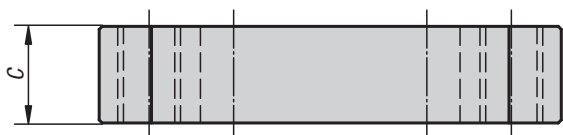
tapped both ends



Material:
Carbon steel 1.0503.

Version:
Tempered and black oxidised.

Sample order:
K0836.08063

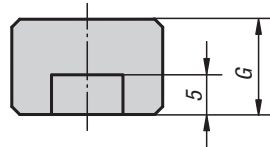
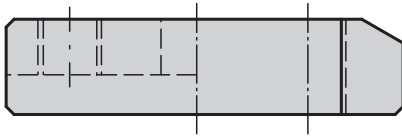


KIPP Clamp straps, tapped both ends

Order No.	A	B	C	D	E	F	G	H	Clamping force N	Tightening torque max. Nm
K0836.08063	63	25	12	12	25	7	9	M8	6900	22
K0836.08080	80	25	12	17	32	7	9	M8	6900	22
K0836.10080	80	25	16	14	32	10	11	M10	11300	45
K0836.10100	100	25	16	20	40	10	11	M10	11300	45
K0836.10125	125	25	16	30	45	10	11	M10	11300	45
K0836.12100	100	32	19	20	40	10	13	M12	16700	80
K0836.12125	125	32	19	30	45	10	13	M12	16700	80
K0836.12160	160	32	22	45	50	10	13	M12	16700	80
K0836.16125	125	38	19	30,5	40	12	17	M16	18000	115
K0836.16160	160	38	22	43	50	12	17	M16	18000	115
K0836.16200	200	38	25	58	60	12	17	M16	20200	129
K0836.20125	125	38	22	27,5	40	15	21	M20	19700	157
K0836.20160	160	38	22	40	50	15	21	M20	19700	157
K0836.20200	200	50	25	55	60	15	21	M20	22900	183

Clamp straps

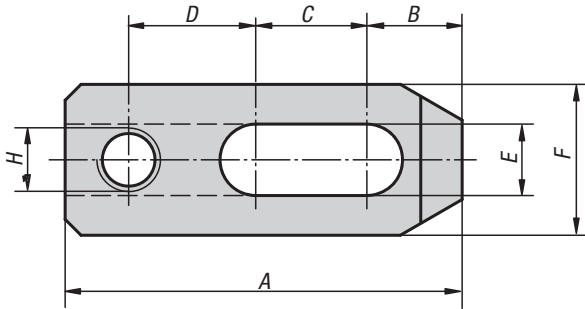
tapped heel



Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0837.08040



KIPP Clamp straps, tapped heel

Order No.	A	B	C	D	E	F	G	H
K0837.08040	40	10	6	16	9	19	12	M8
K0837.08050	50	12	14	16	9	19	12	M8
K0837.08063	63	12	27	16	9	19	12	M8
K0837.10050	50	12	8	20	11	25	12	M10
K0837.10063	63	15	18	20	11	25	12	M10
K0837.10080	80	15	32	23	11	25	16	M10
K0837.10100	100	15	40	35	11	25	16	M10
K0837.10125	125	15	50	50	11	25	16	M10
K0837.12063	63	14	14	24	13	32	16	M12
K0837.12080	80	20	25	24	13	32	16	M12
K0837.12100	100	20	40	29	13	32	19	M12
K0837.12125	125	20	50	44	13	32	19	M12
K0837.12160	160	20	60	69	13	32	19	M12
K0837.16080	80	18	17	30	17	38	19	M16
K0837.16100	100	25	30	30	17	38	25	M16
K0837.16125	125	25	45	40	17	38	25	M16
K0837.16160	160	25	65	55	17	38	25	M16
K0837.20160	160	32	60	52	21	50	25	M20
K0837.20200	200	32	80	72	21	50	25	M20

Clamp straps

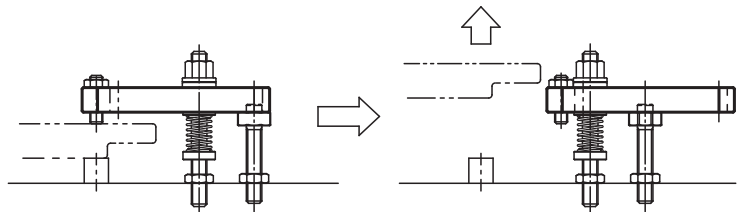
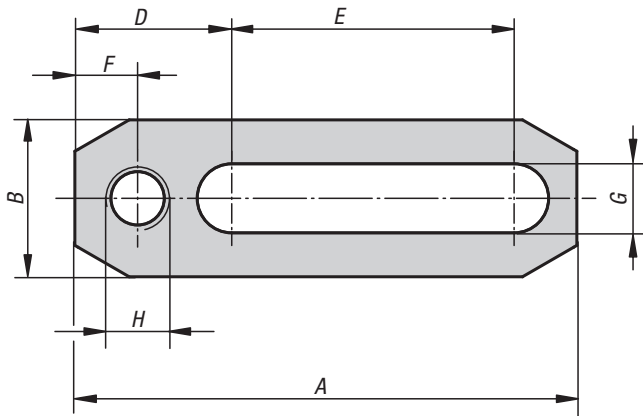
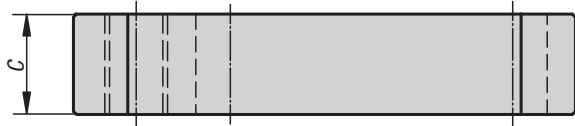
tapped heel



Material:
Carbon steel 1.0503.

Version:
Tempered and black oxidised.

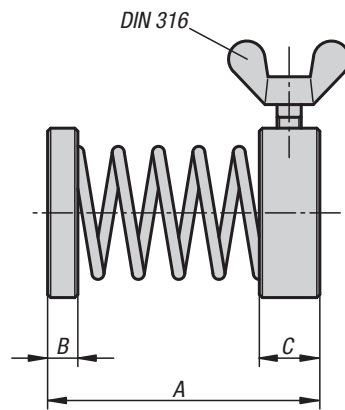
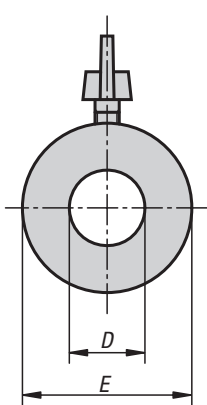
Sample order:
K0838.08063



KIPP Clamp straps, tapped heel

Order No.	A	B	C	D	E	F	G	H	Clamping force N	Tightening torque max. Nm
K0838.08063	63	19	12	19	36	7	9	M8	3200-8000	17
K0838.08080	80	19	12	19	53	7	9	M8	3500-8600	17
K0838.10080	80	25	16	25	45	10	11	M10	6800-16900	45
K0838.10100	100	25	16	25	65	10	11	M10	7300-18300	45
K0838.10125	125	25	16	25	90	10	11	M10	7700-19300	45
K0838.12100	100	32	19	28	60	10	13	M12	10200-25600	80
K0838.12125	125	32	19	28	85	10	13	M12	11000-27500	80
K0838.12160	160	32	19	28	120	10	13	M12	11600-29000	80
K0838.16125	125	38	25	36	73	12	17	M16	12100-30300	129
K0838.16160	160	38	25	36	108	12	17	M16	13200-33000	129
K0838.16200	200	38	25	36	148	12	17	M16	13900-34700	129
K0838.20160	160	50	25	45	90	15	21	M20	15000-36000	183
K0838.20200	200	50	32	45	130	15	21	M20	16000-37000	183
K0838.20250	250	50	32	45	180	15	21	M20	17000-38000	183

Clamp springs



Material:

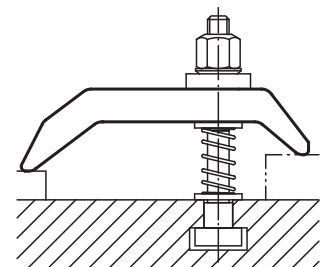
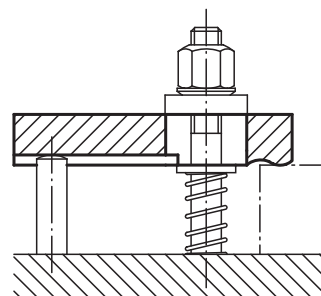
Thrust and retaining ring carbon steel.
Spring, spring steel.

Version:

Thrust and retaining ring black oxidised.
Spring bright.

Sample order:

K0859.12046

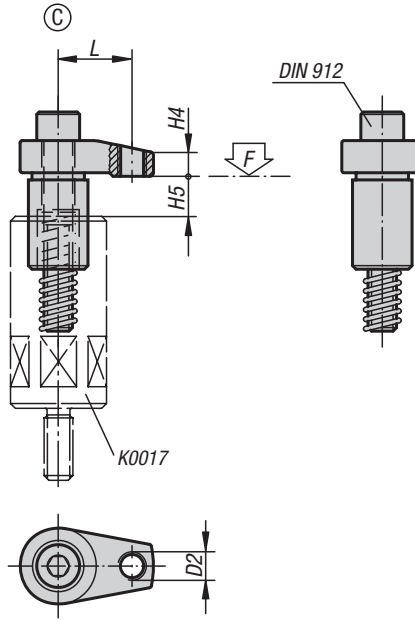
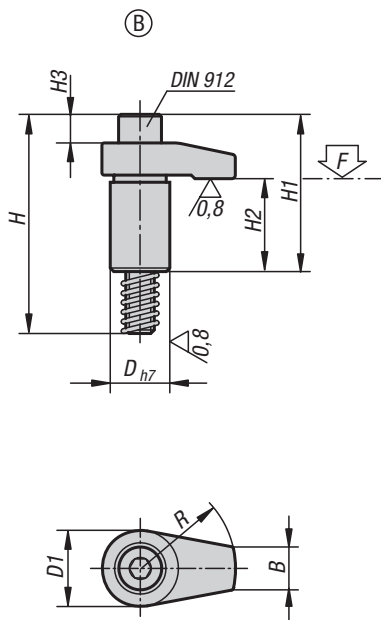
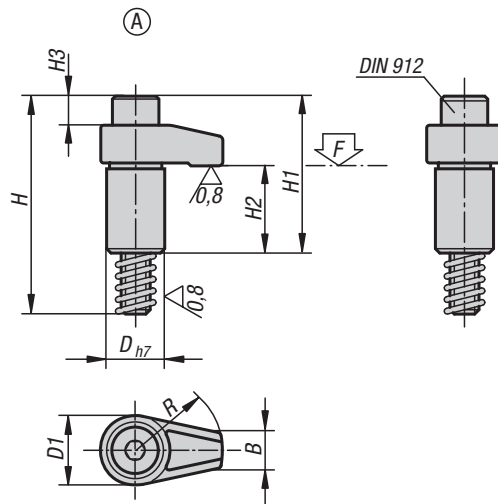


KIPP Clamp springs

Order No.	A	B	C	D	E	Wing nuts to DIN 316
K0859.08029	29	2	6	8,5	16	M4x6
K0859.12046	46	3	8	13	25	M4x10
K0859.16050	50	4	8	16,5	28	M5x10

Hook clamps ground

Form A/B/C

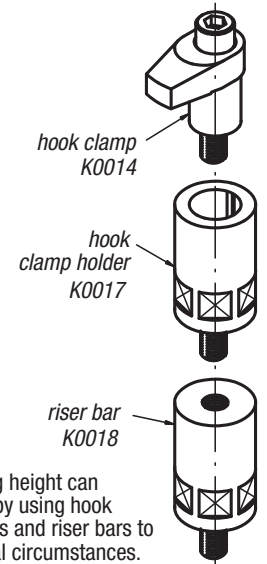


Material:
Carbon steel, tempered.

Version:
Black oxidised. Shaft OD ground.

Sample order:
K0014.216040

Note:
The stated clamping forces (F max.) and tightening torques are valid within the stated clamping ranges (H5).



The clamping height can be adjusted by using hook clamp holders and riser bars to suit individual circumstances.

KIPP Hook clamps, ground, Form A/B/C

Order No.	Form	D	D1	D2	H	H1	H2	H3	H4	H5 max. clamping range	B	L	R	Socket head screw DIN 912	Tightening torque max. Nm	F max. kN
K0014.110030	A	20	25	-	75	54	30	9	10	12	12	-	30	M10x65	37,2	13
K0014.110040	A	20	25	-	75	54	30	9	10	12	12	-	40	M10x65	31,4	9,8
K0014.208020	B	18	22	-	58	37	23	2	7	10	10	-	20	M8x50	37,2	13,6
K0014.208025	B	18	22	-	58	37	23	2	7	10	10	-	25	M8x50	32,3	10,9
K0014.208030	B	18	22	-	58	37	23	2	7	10	10	-	30	M8x50	29,4	9
K0014.212040	B	25	32	-	92	66	39	11	12	15	18	-	40	M12x80	58,8	17,5
K0014.212050	B	25	32	-	92	68	39	11	12	15	18	-	50	M12x80	49	14
K0014.212060	B	25	32	-	92	68	39	11	12	15	18	-	60	M12x80	45,1	11,6
K0014.216040	B	32	36	-	101	75	39	15	15	15	22	-	40	M16x85	166,6	37,9
K0014.216050	B	32	36	-	101	75	39	15	15	15	22	-	50	M16x85	147	30,4
K0014.216060	B	32	36	-	101	75	39	15	15	15	22	-	60	M16x85	127,4	25,2
K0014.312140	C	25	32	M12	92	66	39	11	10	15	18	31	40	M12x80	58,8	22,6
K0014.312150	C	25	32	M12	92	68	39	11	13	15	18	38	50	M12x80	49	18,5
K0014.312160	C	25	32	M12	92	68	39	11	13	15	18	46	60	M12x80	45,1	15,2
K0014.316150	C	32	36	M12	101	75	39	15	16	15	22	38	50	M16x85	147	38
K0014.316160	C	32	36	M12	101	75	39	15	16	15	22	46	60	M16x85	127,4	33

Hook clamp holders

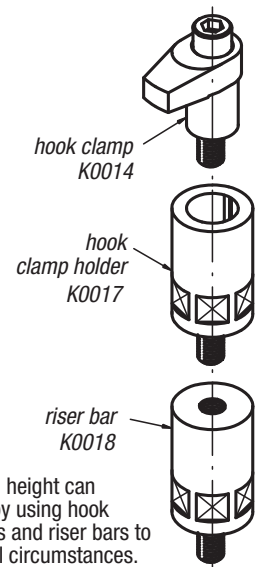
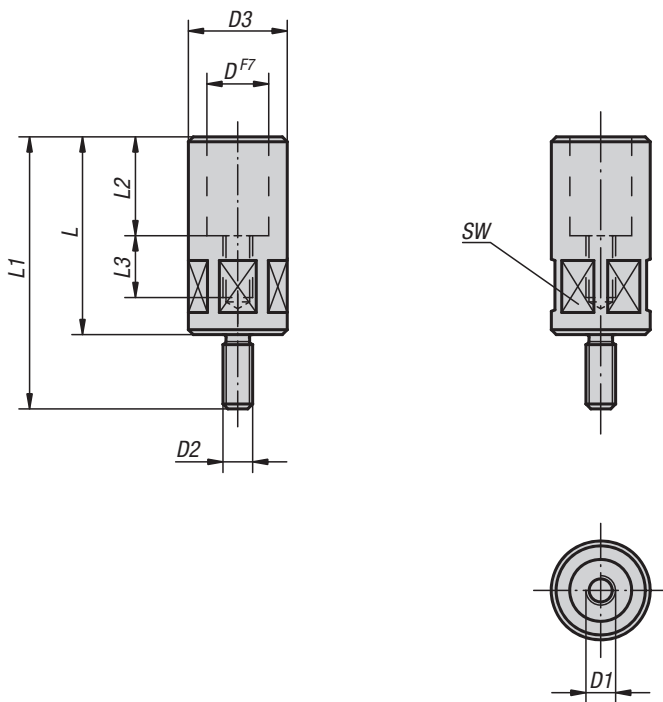


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0017.12080

Note:
Hook clamp holders are for holding and raising hook clamps.

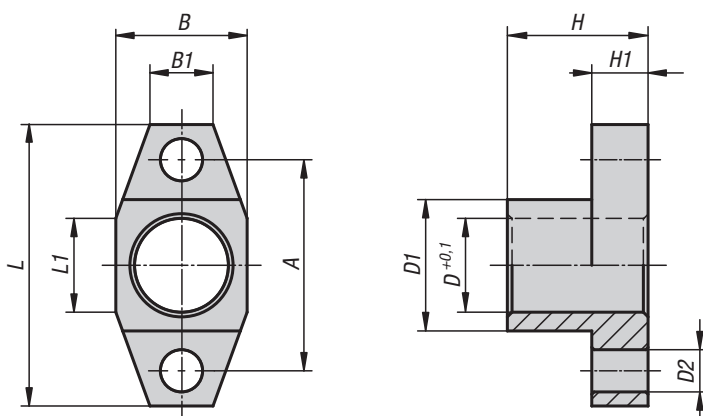


The clamping height can be adjusted by using hook clamp holders and riser bars to suit individual circumstances.

KIPP Hook clamp holders

Order No.	D	D1	D2	D3	L	L1	L2	L3	SW	Tightening torque max. Nm
K0017.08055	18	M8	M8	24	55	74	25	20	22	29,4
K0017.10063	20	M10	M12	32	63	93	30	21	30	39,2
K0017.10080	20	M10	M12	32	80	110	30	23	30	39,2
K0017.12080	25	M12	M12	40	80	110	40	25	36	49
K0017.12100	25	M12	M12	40	100	130	40	28	36	49
K0017.16080	32	M16	M16	50	80	110	40	25	46	78,4
K0017.16100	32	M16	M16	50	100	130	40	28	46	78,4

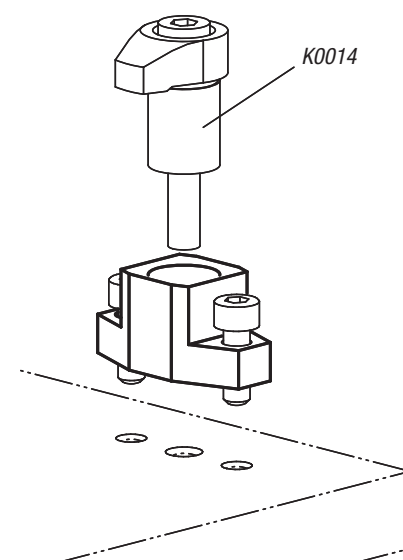
Hook clamp holders



Material:
Carbon steel 1.0503.

Version:
Black oxidised.

Sample order:
K0851.08025



KIPP Hook clamp holders

Order No.	A	B	B1	D	D1	D2	H	H1	L	L1
K0851.04016	24	14	-	10	14	4,3	16	6	34	-
K0851.06019	28	16	-	12	16	5,3	19	8	40	-
K0851.08025	38	24	11,3	18	24	6,6	25	10	50	15
K0851.10030	45	28	13,4	20	28	9	30	12	60	20
K0851.12040	55	35	15	25	35	11	40	14	75	20
K0851.16040	65	42	20,2	32	42	13,5	40	16	85	25

Hook clamps

with collar



Material:

Hook clamps and hook clamp holders carbon steel, tempered.

Version:

Black oxidised.

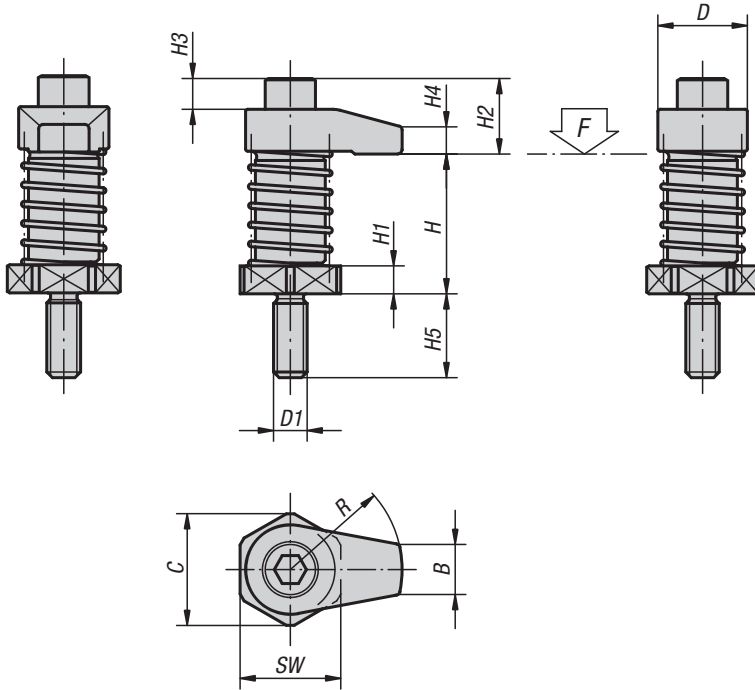
Sample order:

K0015.12060

Note:

Hook clamps with collar can be screwed directly into grid holes etc. without counterbore.

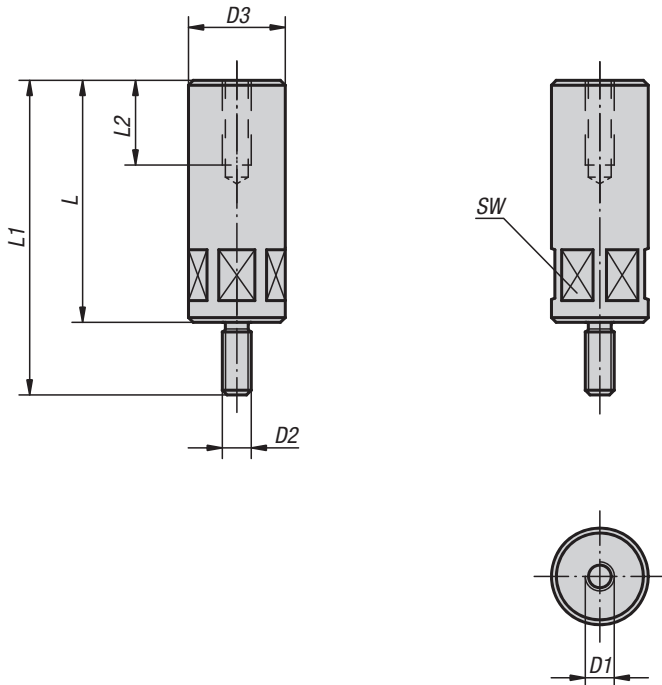
For suitable riser elements, see riser bars K0018.



KIPP Hook clamps with collar

Order No.	D	D1	H clamping range	H1	H2	H3	H4	H5	B	C	R	SW	Tightening torque max. Nm	F max. kN
K0015.08020	22	M8	35 - 45	6	14	2	7	19	10	25	20	22	20	7,9
K0015.08025	22	M8	35 - 45	6	14	2	7	19	10	25	25	22	20	7,3
K0015.08030	22	M8	35 - 45	6	14	2	7	19	10	25	30	22	20	6,7
K0015.08120	22	M8	45 - 55	16	14	2	7	19	10	25	20	22	20	7,9
K0015.08125	22	M8	45 - 55	16	14	2	7	19	10	25	25	22	20	7,3
K0015.08130	22	M8	45 - 55	16	14	2	7	19	10	25	30	22	20	6,7
K0015.12040	32	M12	50 - 65	10	27	11	10	30	18	40	40	36	45	13,5
K0015.12050	32	M12	50 - 65	10	29	11	12	30	18	40	50	36	45	12,6
K0015.12060	32	M12	50 - 65	10	29	11	12	30	18	40	60	36	45	11,7
K0015.12140	32	M12	65 - 80	25	27	11	10	30	18	40	40	36	45	13,5
K0015.12150	32	M12	65 - 80	25	29	11	12	30	18	40	50	36	45	12,6
K0015.12160	32	M12	65 - 80	25	29	11	12	30	18	40	60	36	45	11,7
K0015.16040	36	M16	50 - 65	10	36	15	15	30	22	40	40	36	60	13,4
K0015.16050	36	M16	50 - 65	10	36	15	15	30	22	40	50	36	60	12,4
K0015.16060	36	M16	50 - 65	10	36	15	15	30	22	40	60	36	60	12
K0015.16140	36	M16	65 - 80	25	36	15	15	30	22	40	40	36	60	13,4
K0015.16150	36	M16	65 - 80	25	36	15	15	30	22	40	50	36	60	12,4
K0015.16160	36	M16	65 - 80	25	36	15	15	30	22	40	60	36	60	12

Riser bars

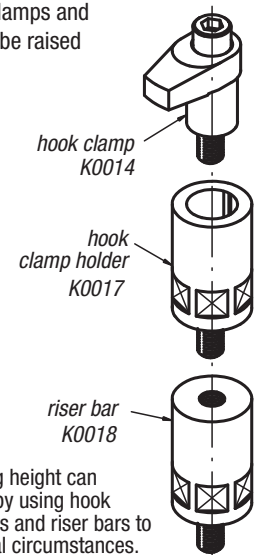


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0018.16050

Note:
The height of the hook clamps and hook clamp holders can be raised using these riser bars.



The clamping height can be adjusted by using hook clamp holders and riser bars to suit individual circumstances.

KIPP Riser bars

Order No.	D1	D2	D3	L	L1	L2	SW	Tightening torque max. Nm
K0018.08032	M8	M8	24	32	51	20	22	29,4
K0018.08040	M8	M8	24	40	59	20	22	29,4
K0018.08050	M8	M8	24	50	69	20	22	29,4
K0018.08065	M8	M8	24	65	84	20	22	29,4
K0018.12050	M12	M12	40	50	80	35	36	49
K0018.12065	M12	M12	40	65	95	35	36	49
K0018.12080	M12	M12	40	80	110	35	36	49
K0018.12100	M12	M12	40	100	130	35	36	49
K0018.12125	M12	M12	40	125	155	35	36	49
K0018.12160	M12	M12	40	160	190	35	36	49
K0018.12200	M12	M12	40	200	230	35	36	49
K0018.16050	M16	M16	50	50	80	35	46	78,4
K0018.16065	M16	M16	50	65	95	35	46	78,4
K0018.16080	M16	M16	50	80	110	35	46	78,4
K0018.16100	M16	M16	50	100	130	35	46	78,4
K0018.16125	M16	M16	50	125	155	35	46	78,4
K0018.16160	M16	M16	60	160	190	35	55	78,4
K0018.16200	M16	M16	60	200	230	35	55	78,4

Hook clamps

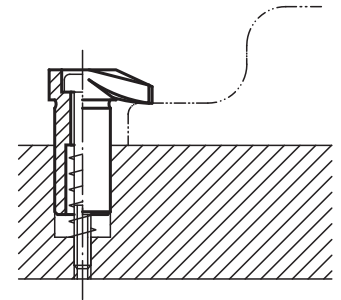
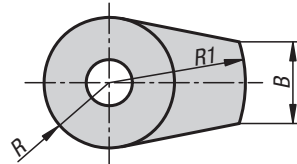
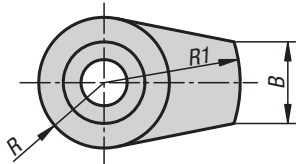
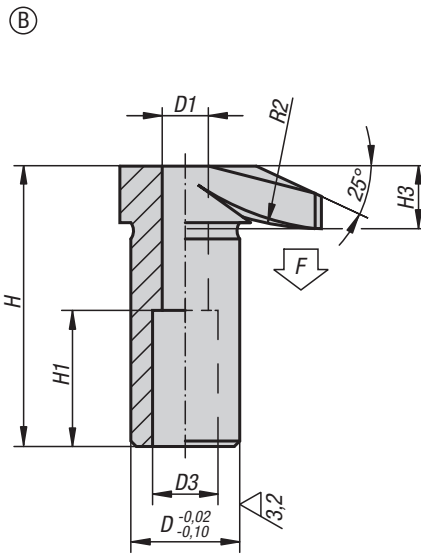
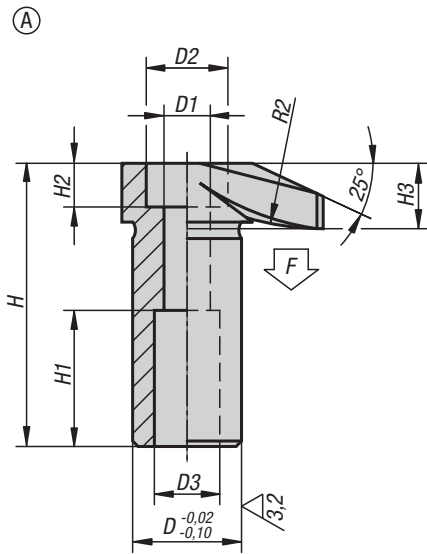


Material:
Carbon steel, tempered.

Version:
Black oxidised.

Sample order:
K0012.10

Accessories:
Springs K1554 and socket head screws K0869.



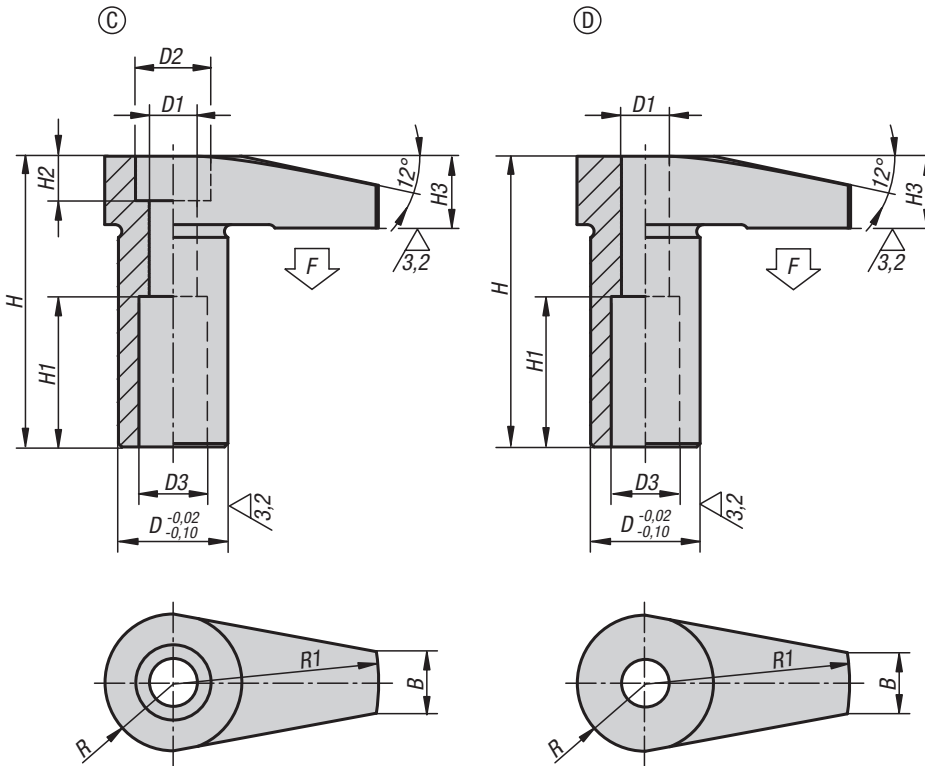
KIPP Hook clamps

Order No.	Form	D	D1	D2	D3	H	H1	H2	H3	B	R	R1	R2	F max. kN
K0012.06	A	16	6,5	11	10	42	20	6	10	11	9	20	30	4,8
K0012.08	A	20	8,5	15	12	52	25	8	12	15	12	25	50	8,8
K0012.10	A	25	10,5	18	14	66	32	10	16	17	14	32	60	13,9
K0012.12	A	32	12,5	20	17	83	40	12	20	20	18	40	80	20,2

Order No.	Form	D	D1	D3	H	H1	H3	B	R	R1	R2	F max. kN
K0012.106	B	16	6,5	10	41,5	20	9,5	11	9	20	30	4,8
K0012.108	B	20	8,5	12	51,5	25	11,5	15	12	25	50	8,8
K0012.110	B	25	10,5	14	65,5	32	15,5	17	14	32	60	13,9
K0012.112	B	32	12,5	17	82,5	40	19,5	20	18	40	80	20,2

Hook clamps

with long hook



Material:
Carbon steel, tempered.

Version:
Black oxidised.

Sample order:
K0012.406

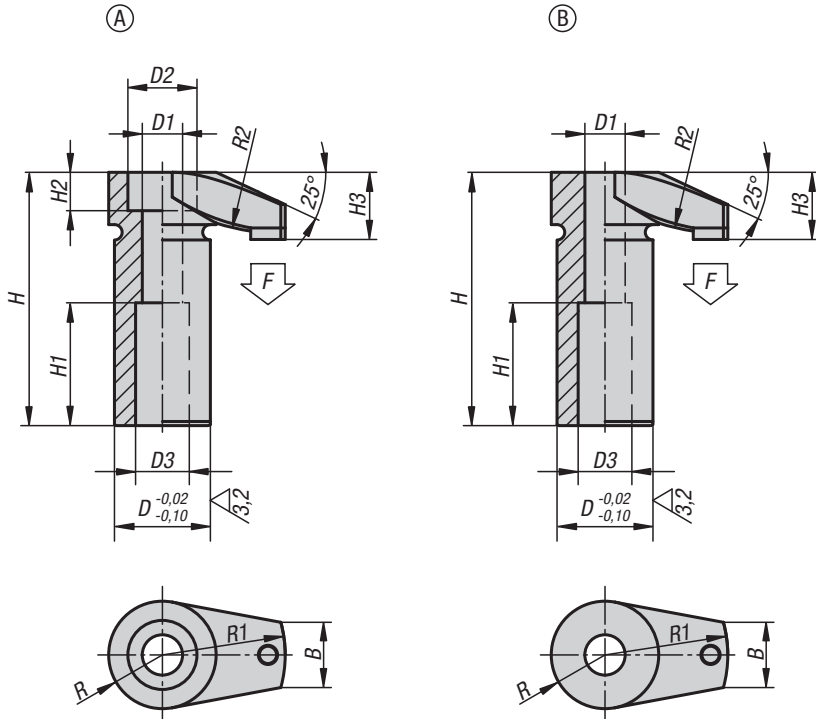
KIPP Hook clamps with long hook

Order No.	Form	B	D	D1	D2	D3	H	H1	H2	H3	R	R1	F max. kN
K0012.406	C	9	16	7	11	10	42,5	22	6	10,5	10	30	4,5
K0012.408	C	12	20	8,6	15	12	52,5	25	8	12,5	12,5	40	6,5
K0012.410	C	18	25	10,6	18	14	66,5	32	10	16,5	16	50	11,8

Order No.	Form	B	D	D1	D3	H	H1	H3	R	R1	F max. kN
K0012.506	D	9	16	7	10	42,5	22	10,5	10	30	4,5
K0012.508	D	12	20	8,6	12	52,5	25	12,5	12,5	40	6,5
K0012.510	D	18	25	10,6	14	66,5	32	16,5	16	50	11,8

Hook clamps

with soft pad



Material:

Carbon steel.

Soft pad POM or polyurethane 99 Shore A.

Version:

Tempered and black oxidised.

Sample order:

K0012.206

Note:

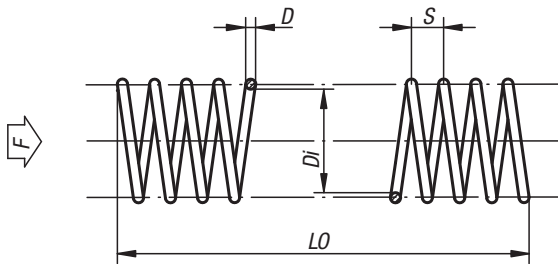
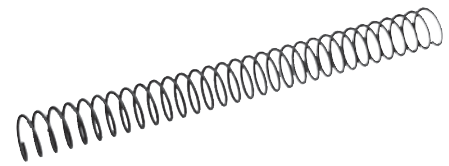
The pressed in plastic inserts offer optimal damage protection for sensitive workpiece faces.

KIPP Hook clamps with soft pad

Order No.	Form	Component material	D	D1	D2	D3	H	H1	H2	H3	B	R	R1	R2	F max. kN
K0012.206	A	polyacetal	16	6,5	11	10	42	20	6	10,5	11	9	20	30	4,8
K0012.208	A	polyacetal	20	8,5	15	12	52	25	8	13,5	15	12	25	50	8,8
K0012.210	A	polyacetal	25	10,5	18	14	66	32	10	17,5	17	14	32	60	11,6
K0012.212	A	polyacetal	32	12,5	20	17	83	40	12	21	20	18	40	80	18,8
K0012.2106	B	polyacetal	16	6,5	-	10	41,5	20	-	10	11	9	20	30	4,8
K0012.2108	B	polyacetal	20	8,5	-	12	51,5	25	-	13	15	12	25	50	8,8
K0012.2110	B	polyacetal	25	10,5	-	14	65,5	32	-	17	17	14	32	60	11,6
K0012.2112	B	polyacetal	32	12,5	-	17	82,5	40	-	21	20	18	40	80	18,8
K0012.306	A	polyurethane	16	6,5	11	10	42	20	6	10,5	11	9	20	30	4,8
K0012.308	A	polyurethane	20	8,5	15	12	52	25	8	13,5	15	12	25	50	8,8
K0012.310	A	polyurethane	25	10,5	18	14	66	32	10	17,5	17	14	32	60	11,6
K0012.312	A	polyurethane	32	12,5	20	17	83	40	12	21	20	18	40	80	18,8
K0012.3106	B	polyurethane	16	6,5	-	10	41,5	20	-	10	11	9	20	30	4,8
K0012.3108	B	polyurethane	20	8,5	-	12	51,5	25	-	13	15	12	25	50	8,8
K0012.3110	B	polyurethane	25	10,5	-	14	65,5	32	-	17	17	14	32	60	11,6
K0012.3112	B	polyurethane	32	12,5	-	17	82,5	40	-	21	20	18	40	80	18,8

Springs

for clamp straps



Material:

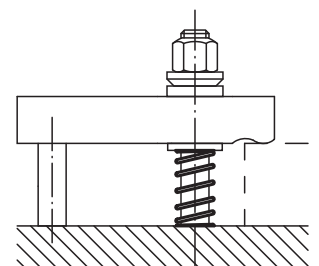
Spring steel wire EN 10270-1-DH.

Sample order:

K1554.12

Note:

Springs are only available in 400 mm lengths.



KIPP Springs for clamp straps

Order No.	D	Di	LO	S	Spring force F approx. N	Compression factor under f
K1554.06	1	6,5	400	3	32	1,3
K1554.08	1	8,5	400	4	25	2,1
K1554.10	1,2	10,5	400	4	35	2,7
K1554.12	1,4	12,5	400	5	47	3,3
K1554.14	1,5	14,5	400	6	50	4
K1554.16	1,6	16,5	400	7	53	4,8
K1554.18	1,8	18,5	400	7	68	5,4
K1554.20	1,8	20,5	400	8	62	6,5
K1554.24	2	25	400	9	70	8,6

Hook clamps

with collar



Material:

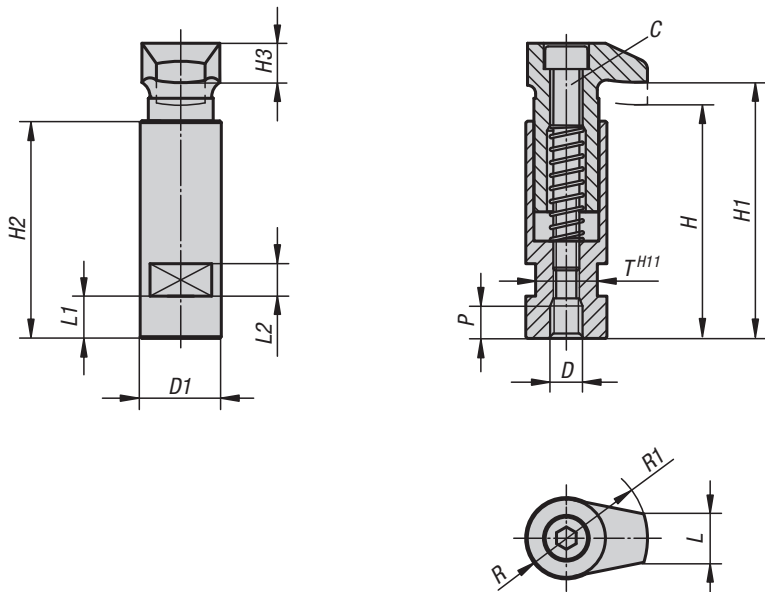
Carbon steel.

Version:

Tempered and black oxidised.

Sample order:

K0013.06

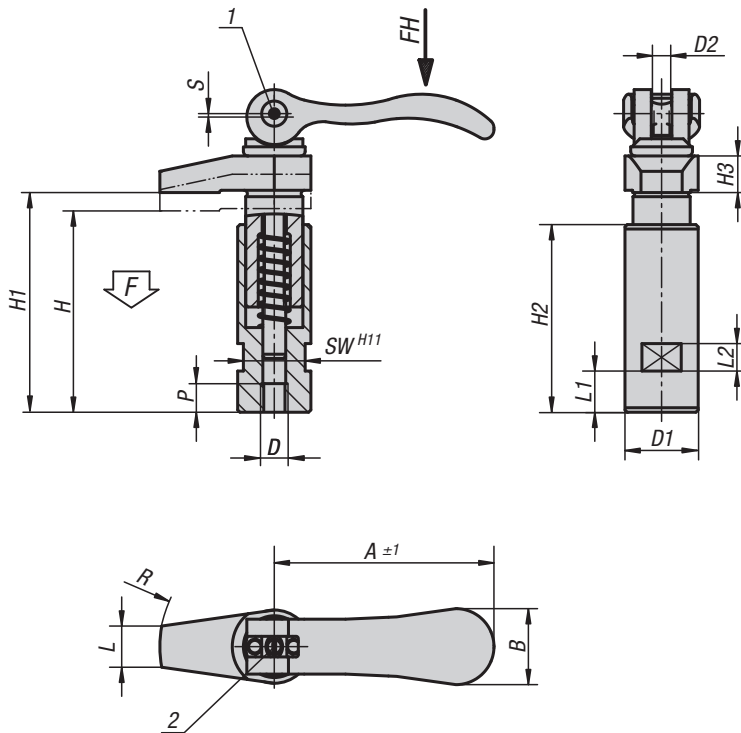


KIPP Hook clamps with collar

Order No.	C	D	D1	H	H1	H2	H3	L	L1	L2	P	R	R1	T	Clamping force kN
K0013.06	M6	M6	20	56	60	53	10	11	9	8	8	9	20	17	4,82
K0013.08	M6	M8	20	56	60	53	10	11	9	8	8	9	20	17	8,77
K0013.10	M8	M10	25	72	79	67	12	15	13	10	10	12	25	19	13,9
K0013.12	M10	M12	32	88	96	82	16	17	18	12	12	14	32	27	20,2
K0013.16	M12	M16	40	109	118	102	20	20	22	12	16	18	40	32	37,8

Hook clamps

with collar and cam lever



Material:

Body and hook, high-carbon steel.
 Handles, cast aluminium EN AC-46200.
 Thrust washer, fibreglass reinforced plastic PA 66 GF 35-X.
 Hinge pin, stud and washer stainless steel 1.4305.

Version:

Body and hook tempered and black oxidised.
 Handles, black powder-coated.
 Thrust washer black.
 Hinge pin, stud and washer bright.

Sample order:

K0013.106

Note:

Ideal for clamping where the parts are to be inserted from above as the hook can be swivelled out of the way.

The exact clamping height is set by the fine thread on the stud using a screwdriver. This setting can be secured with the locking screw. The length S corresponds to the cam travel.

Drawing reference:

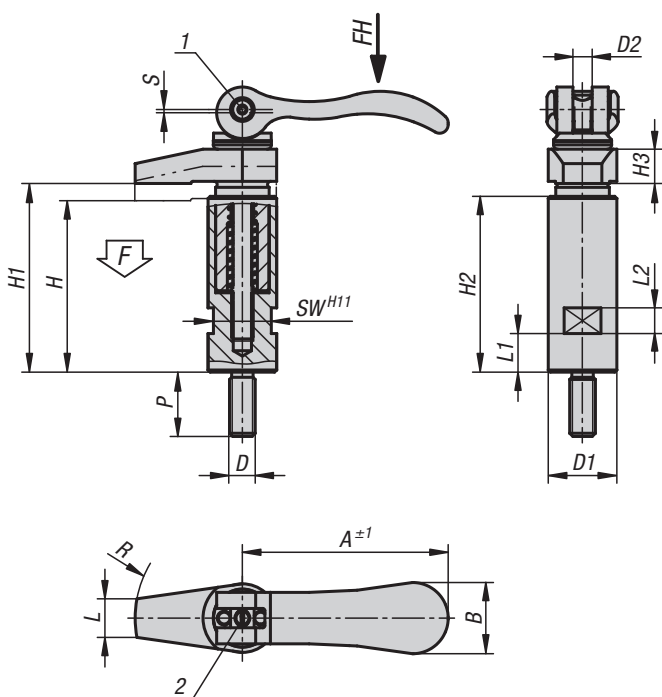
- 1) Locking screw for pin
- 2) Screw for fine adjustment of lever

KIPP Hook clamps with collar and cam lever

Order No.	D	D1	D2	H	H1	H2	H3	L	L1	L2	A	B	P	R	SW	Travel S	F kN	Hand force FH N
K0013.106	M6	20	M6x0,5	56	60	53	10	9	9	8	70,4	21,5	8	30	17	1,2	4	120
K0013.108	M8	20	M6x0,5	56	60	53	10	9	9	8	70,4	21,5	8	30	17	1,2	4	120
K0013.110	M10	25	M8x0,75	72	79	67	12	12	13	10	96	33,3	10	40	19	1,5	8	350
K0013.112	M12	32	M8x0,75	88	96	82	15	18	18	12	96	33,3	12	50	27	1,5	8	350

Hook clamps

with collar and cam lever



Material:

Body and hook, high-carbon steel.
 Handles, cast aluminium EN AC-46200.
 Thrust washer, fibreglass reinforced plastic PA 66 GF 35-X.
 Hinge pin, stud and washer stainless steel 1.4305.

Version:

Body and hook tempered and black oxidised.
 Handles, black powder-coated.
 Thrust washer black.
 Hinge pin, stud and washer bright.

Sample order:

K0013.208

Note:

Ideal for clamping where the parts are to be inserted from above as the hook can be swivelled out of the way.

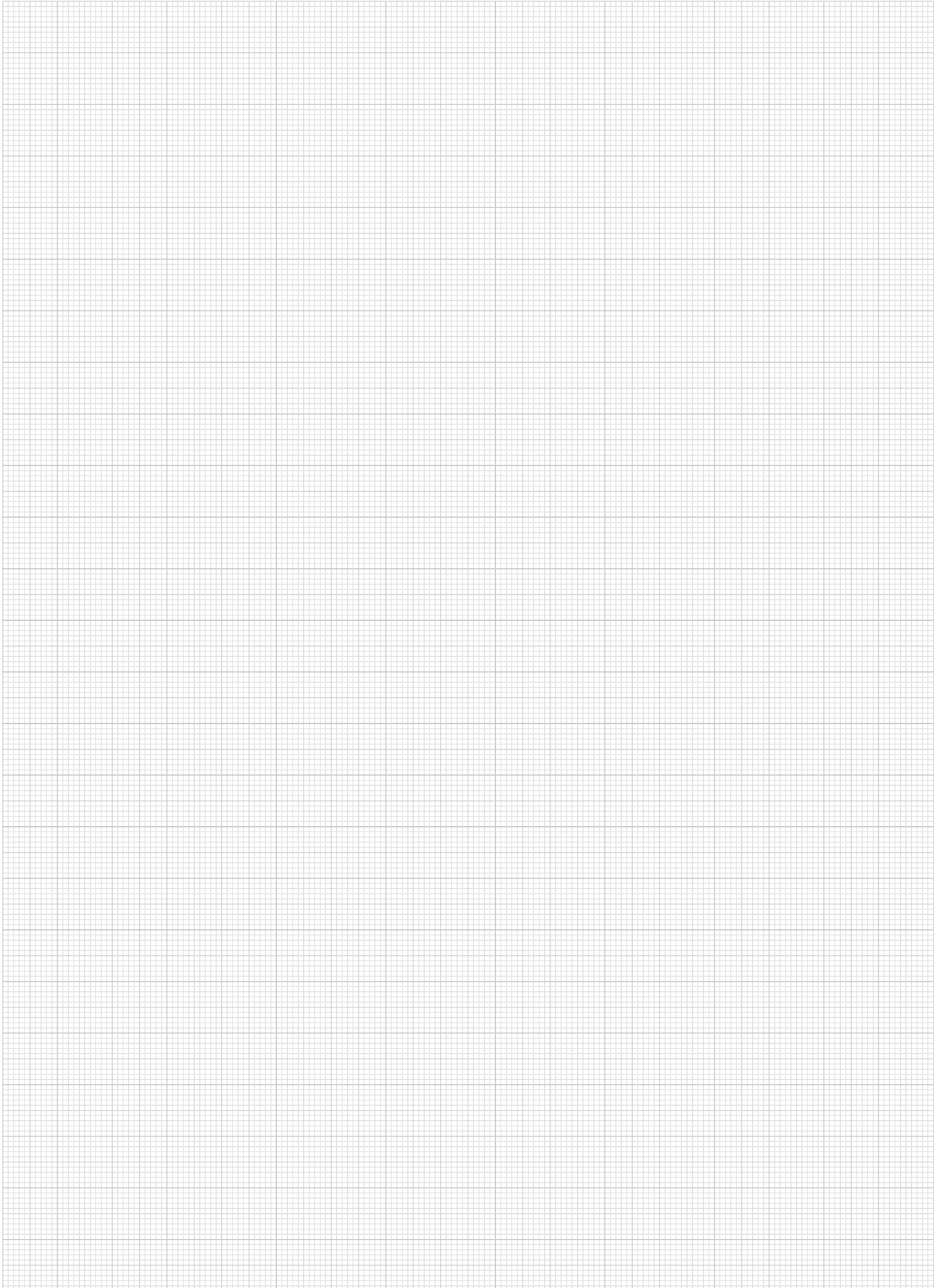
The exact clamping height is set by the fine thread on the stud using a screwdriver. This setting can be secured with the locking screw. The length S corresponds to the cam travel.

Drawing reference:

- 1) Locking screw for pin
- 2) Screw for fine adjustment of lever

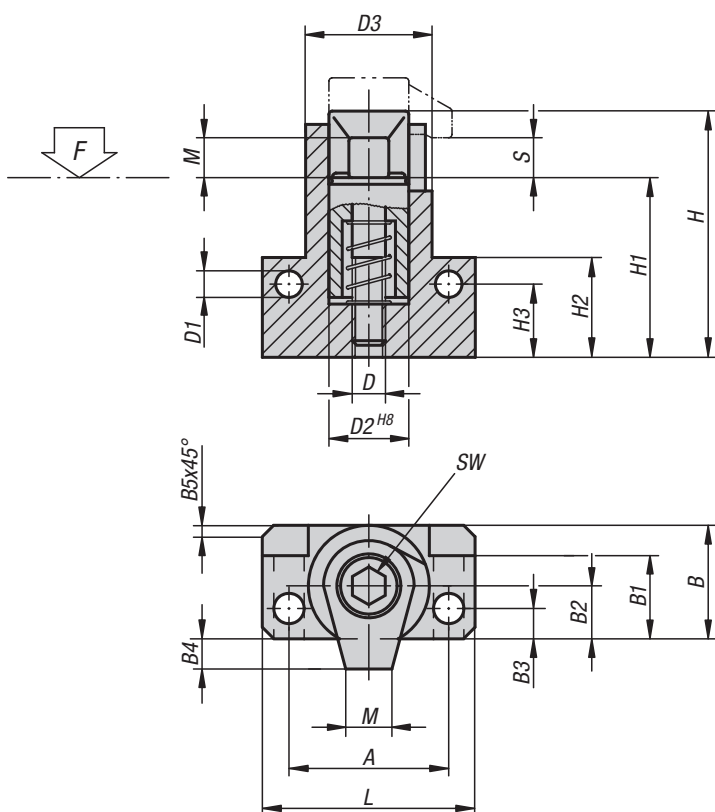
KIPP Hook clamps with collar and cam lever

Order No.	D	D1	D2	H	H1	H2	H3	L	L1	L2	A	B	P	R	SW	Travel S	F kN	Hand force FH N
K0013.206	M6	20	M6x0,5	56	60	53	10	9	9	8	70,4	21,5	20	30	17	1,2	4	120
K0013.208	M8	20	M6x0,5	56	60	53	10	9	9	8	70,4	21,5	20	30	17	1,2	4	120
K0013.210	M10	25	M8x0,75	72	79	67	12	12	13	10	96	33,3	25	40	19	1,5	8	350
K0013.212	M12	32	M8x0,75	88	96	82	18	18	18	12	96	33,3	30	50	27	1,5	8	350



Hook clamps

with mounting bracket



Material:

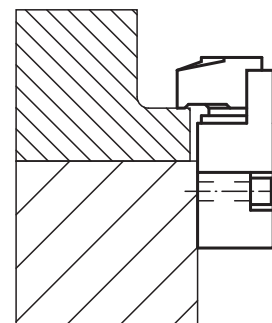
Hook clamps and clamping screw carbon steel, tempered.

Version:

Black oxidised.

Sample order:

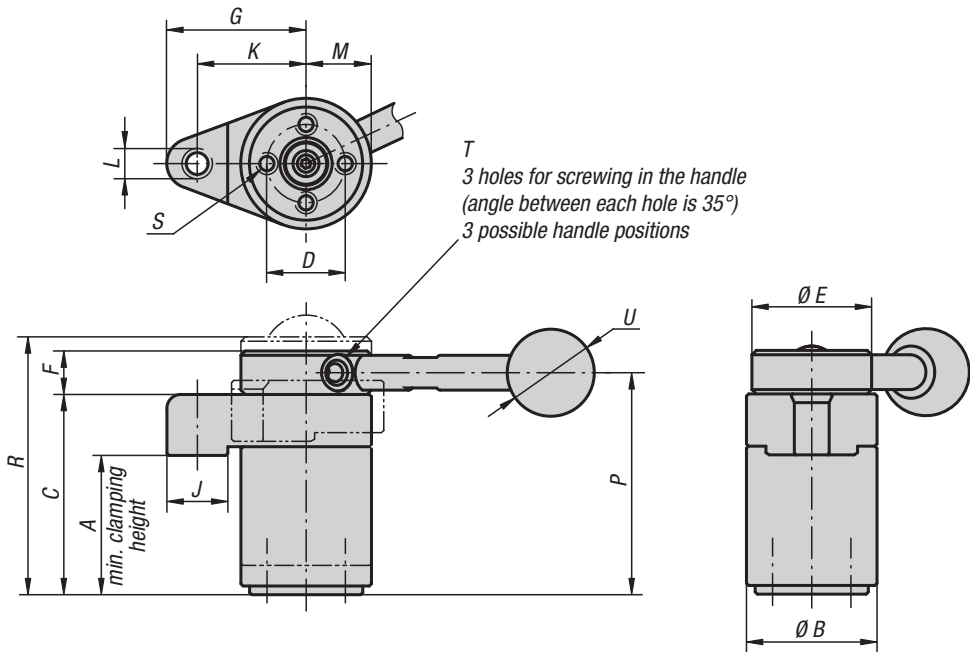
K0016.12



KIPP Hook clamps with mounting bracket

Order No.	D	D1	D2	D3	A	B	B1	B2	B3	B4	B5	H	H1	H2	H3	L	M	S	SW	Tightening torque max. Nm	F max. kN
K0016.08	M8	6,4	20	28	38	26	19,5	12	6	6	2,5	62	47,5	25	18	50	10	4	6	30	17
K0016.10	M10	8,4	24	34	48	31	22,5	14	7,5	9	3	74	57,5	30	21	64	12	5	8	50	18
K0016.12	M12	10,5	28	40	55	36,5	26	16,5	9	10,5	3,5	87	67	35	24	75	15	5	10	60	20
K0016.16	M16	12,8	34	48	65	43,5	31	19,5	10	16,5	4	112	87	45	32	88	20	5	14	120	24

Swing clamps



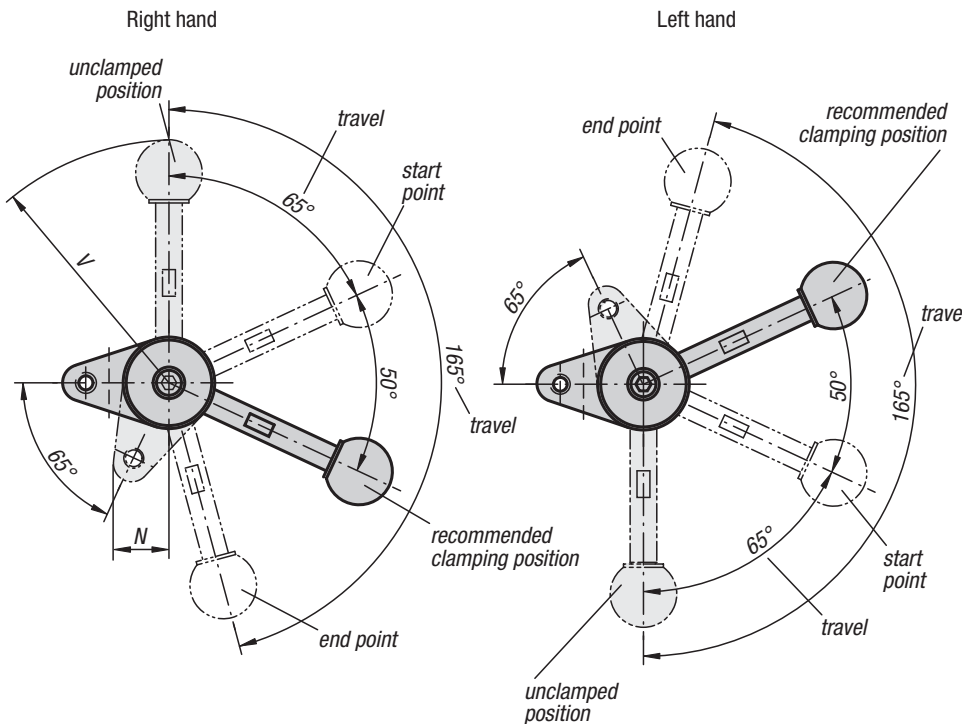
Material:
Carbon steel.
Ball knob plastic.

Version:
Tempered and black oxidised.
Ball knob thermoset PF 31, black.

Sample order:
K0912.013232

Note:
* Admissible hand force to operate the handle.

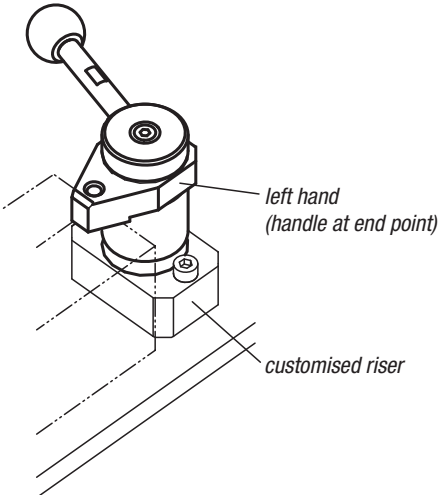
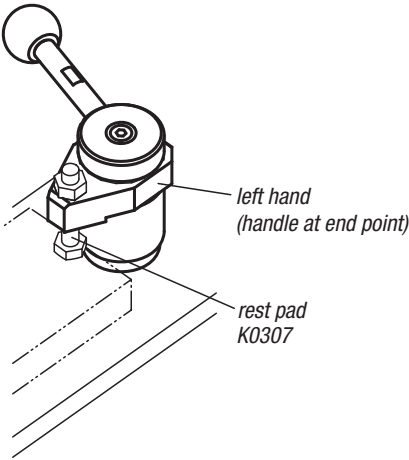
Accessories:
Standard handles K0915.
Screw-in handles with adjustable torque K0916.
Clamping arm for swing clamp K0912.03006010 and K0912.04007516.



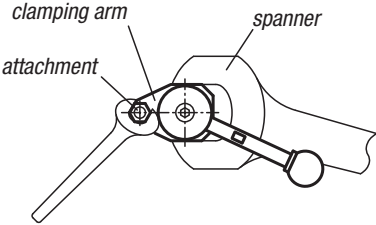
KIPP Swing clamps

Order No. left	Order No. right	Grip	A min.	A max.	B	C	D	E	F	G	J	K	L	M	N	P	R	S	T	U	V	F=retaining force N	Hand force FH N
K0912.003232	K0912.103232	without	31,4	32,6	30	46	18	30	10	32	14	25	M6	15	17	51	57,5	M4x8	M5	-	-	800	150*
K0912.004540	K0912.104540	without	44,1	45,9	40	63	25	38	13	40	16	32	M8	20	22,5	69,5	78,1	M6x12	M6	-	-	1200	200*
K0912.013232	K0912.113232	with handle	31,4	32,6	30	46	18	30	10	32	14	25	M6	15	17	51	57,5	M4x8	M5	20	73	800	150*
K0912.014540	K0912.114540	with handle	44,1	45,9	40	63	25	38	13	40	16	32	M8	20	22,5	69,5	78,1	M6x12	M6	25	107	1200	200*

Technical Information for swing clamps

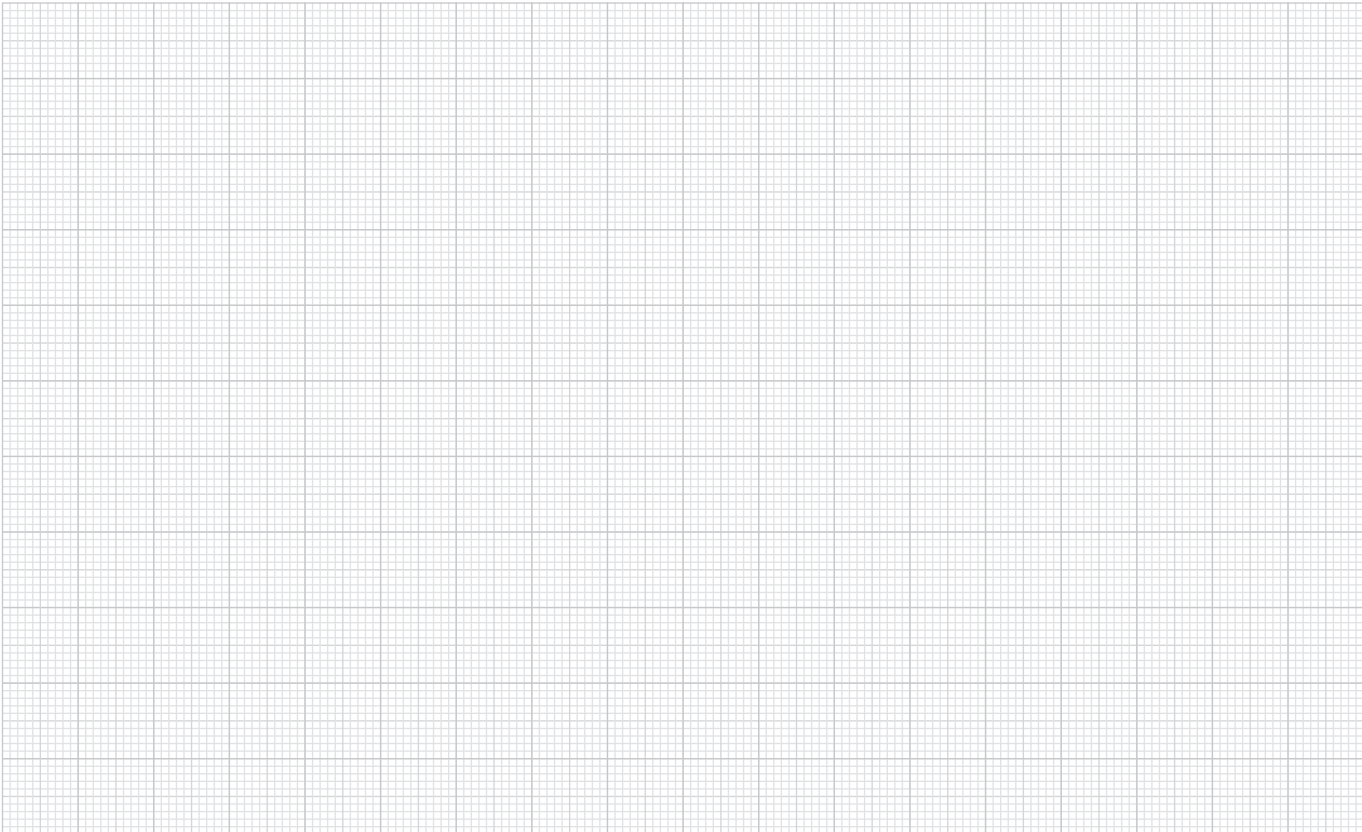


Mounting an attachment



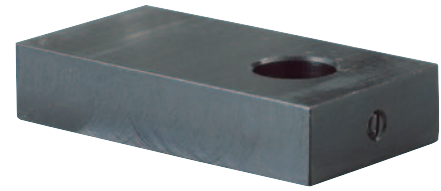
When mounting an attachment on the clamping arm, use a spanner to lock the arm and prevent it from turning.

Notes



Clamping arms

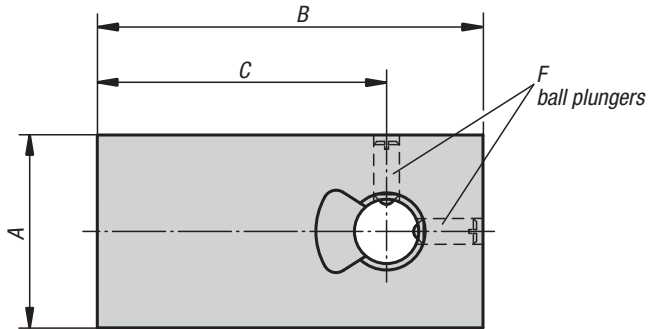
for swing clamp



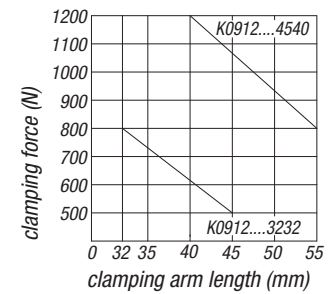
Material:
Carbon steel.

Version:
Black oxidised.

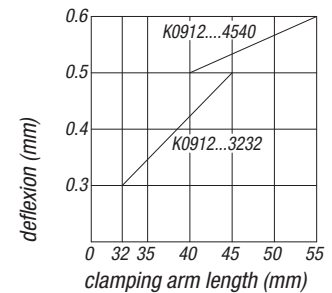
Sample order:
K0912.03006010



clamping arm length C vs. clamping force



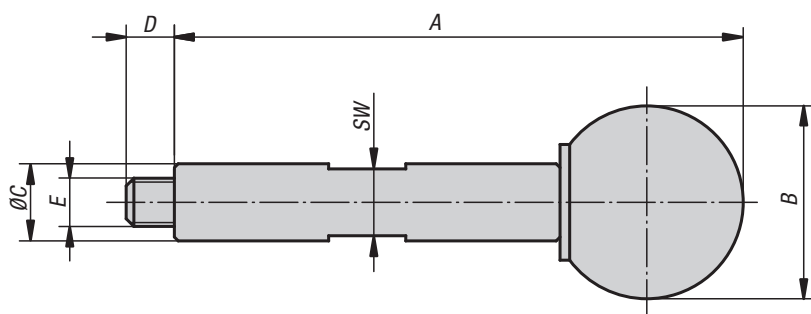
clamping arm length C vs. deflexion during clamping



KIPP Clamping arms for swing clamp

Order No.	A	B	C	D	E	F
K0912.03006010	30	60	45	12	10	M4
K0912.04007516	40	75	55	16	16	M5

Handles screw-in



Material:
Grip carbon steel.
Ball knob thermoset PF 31.

Version:
Grip, black oxidised.
Ball knob, black.

Sample order:
K0915.5059

KIPP Handles screw-in

Order No.	A	B	C	D	E	SW
K0915.05059	59	20	8	5	M5	7
K0915.06089	89	25	10	6	M6	8

Handles screw-in

with torque limit



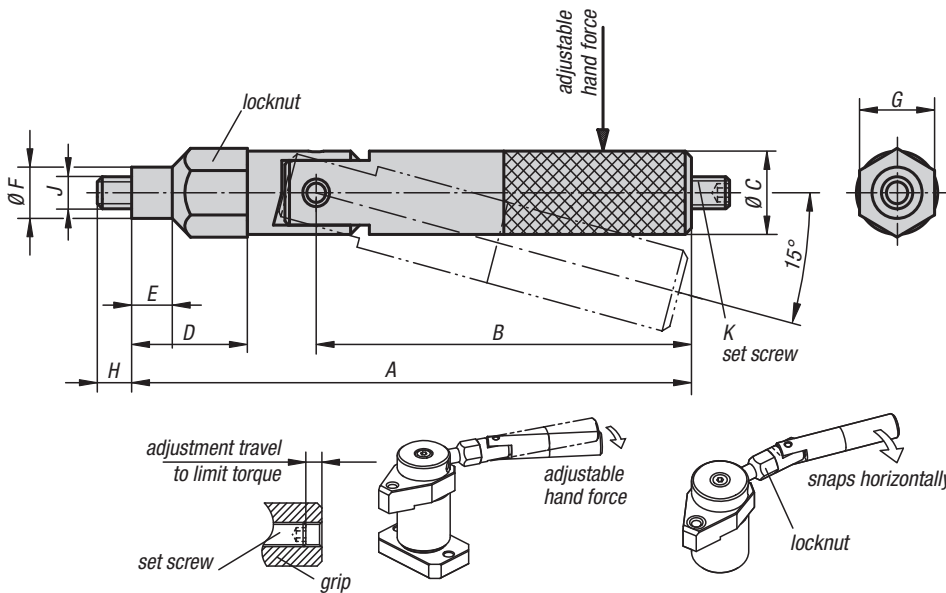
Material:
Carbon steel.

Version:
Hardened, black oxidised.

Sample order:
K0916.05090

Note:
The desired clamping force can be set by using the set screw to alter the torque. The handle snaps 15° when the set torque is achieved.

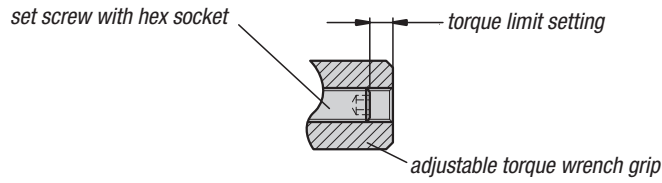
Note:
Ensure that the handle is set to snap horizontally.



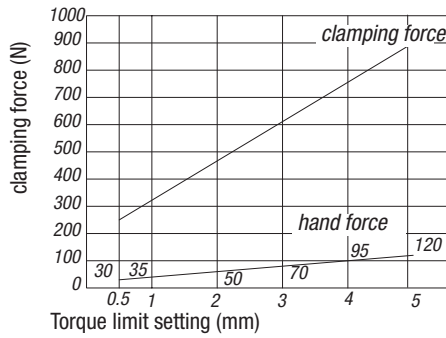
KIPP Handles, screw-in, with torque limit

Order No.	A	B	C	D	E	F	G	H	J	K	Hand force FH N
K0916.05090	89,5	60	13	18,5	6,5	8	12	5,5	M5	M5x16	0-150
K0916.06119	119	84	15	23	8	10	14	6,5	M6	M6x20	0-200

Performance curves

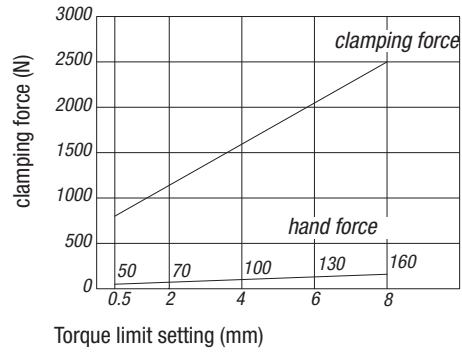


Pull Clamps K0910.3240...

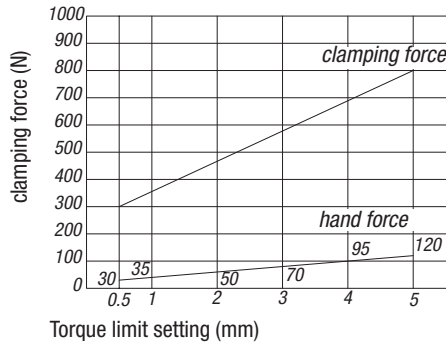


If clamping force is 900 N, Load-Setting Distance will be 5 mm. Hand force will be 120 N.

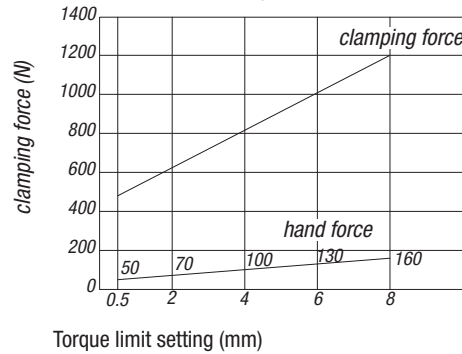
Pull Clamps K0910.4050...



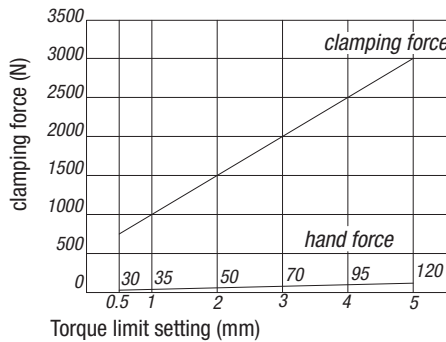
Swing Clamps K0912....3232



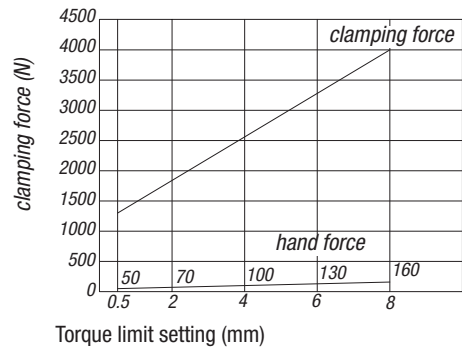
Swing Clamps K0912....4540



Side Clamps K0928.0500
K0928.0501



Side Clamps K0928.0800
K0928.0801



Note:
The above performance curves apply to degreased clamps

Swing clamps

mini, with cam lever



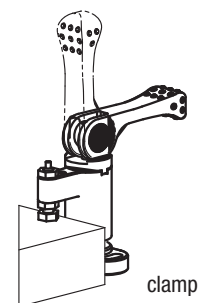
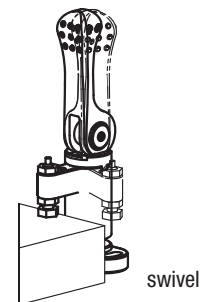
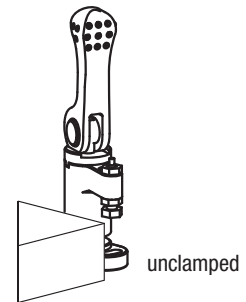
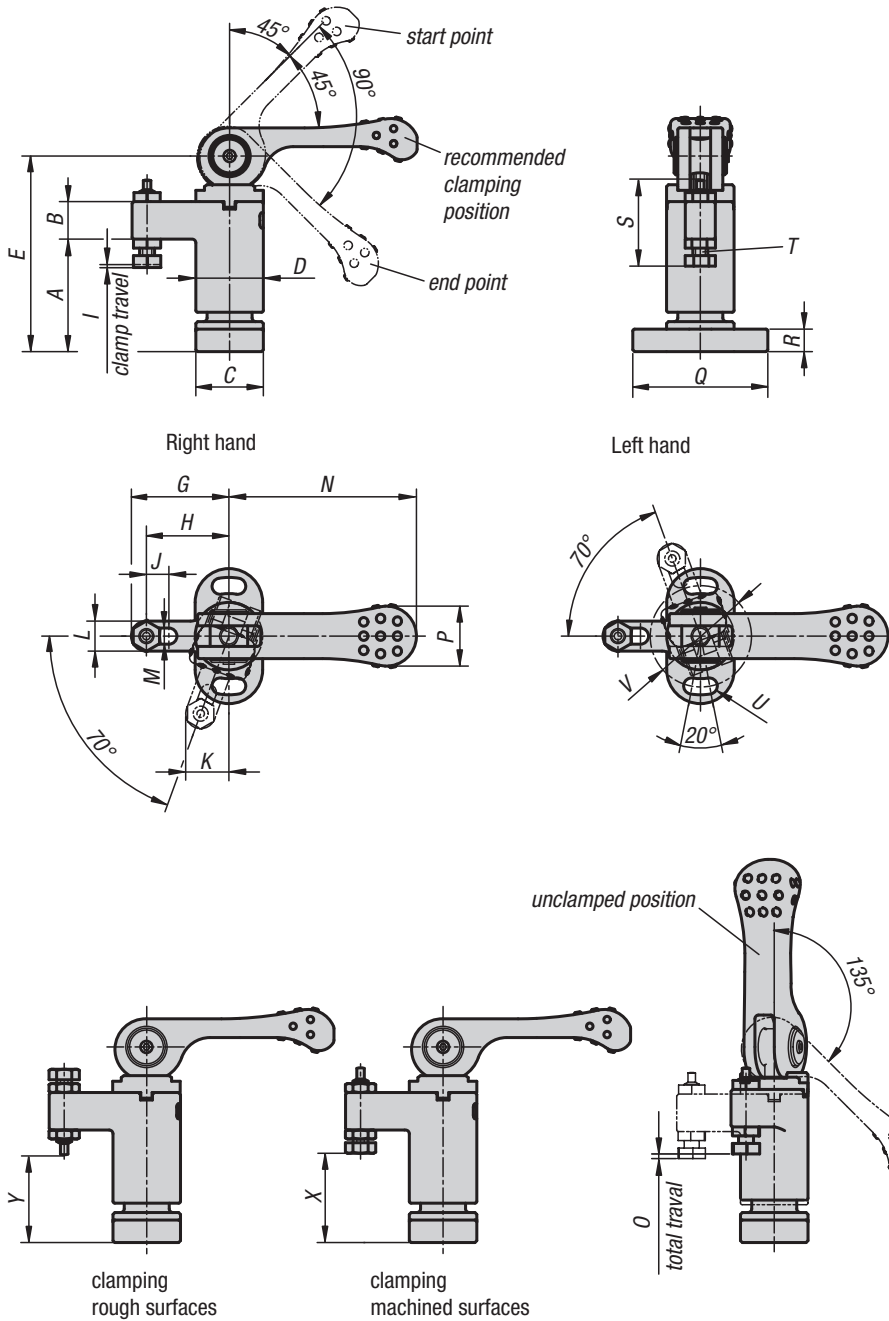
Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0925.0100

Note:
Swing clamps are used where the clamping points must be free when the workpiece is loaded or removed.

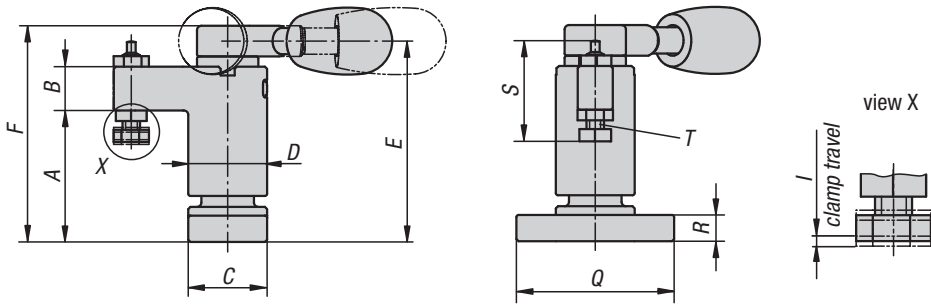
* Admissible hand force for the handle.



KIPP Swing clamps, mini, with cam lever

Order No. left	Order No. right	A	B	C	D	E	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	X min.	X max.	Y min.	Y max.	F=retaining force N	Hand force FH N
K0925.0100	K0925.1100	30	10	18	18	52	26	22	0,8	6	11,5	8	4,3	50	1,2	16	36	6	22,8	M4	4,3	27	22,4	25,2	22	24,8	800	100*
K0925.0150	K0925.1150	40	14	23	23	68	35	30	1	8	15,3	10	5,3	63	1,5	19	45	8	28,5	M5	5,3	34	30,8	33,8	31,7	34,7	1500	150*
K0925.0200	K0925.1200	50	18	30	30	87	45	37	1,2	8	20,7	16	8,4	80	1,8	24	65	12	45,5	M8	8,4	48	31,9	39,6	32,9	40,6	2100	200*
K0925.0300	K0925.1300	60	22	40	40	107	55	45	1,5	8	25,4	20	10,4	100	2,3	30	85	15	57	M10	10,5	64	35,7	46,7	38,2	49,2	2800	300*

Swing clamps mini



Right hand

Left hand

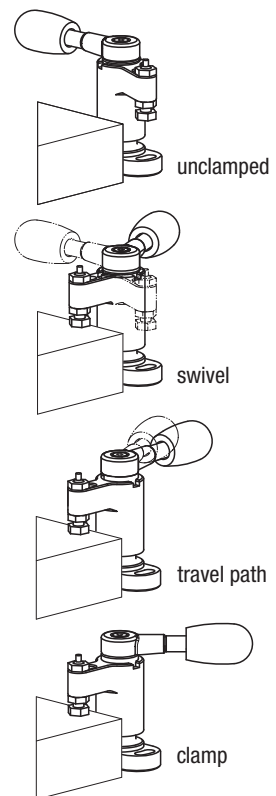
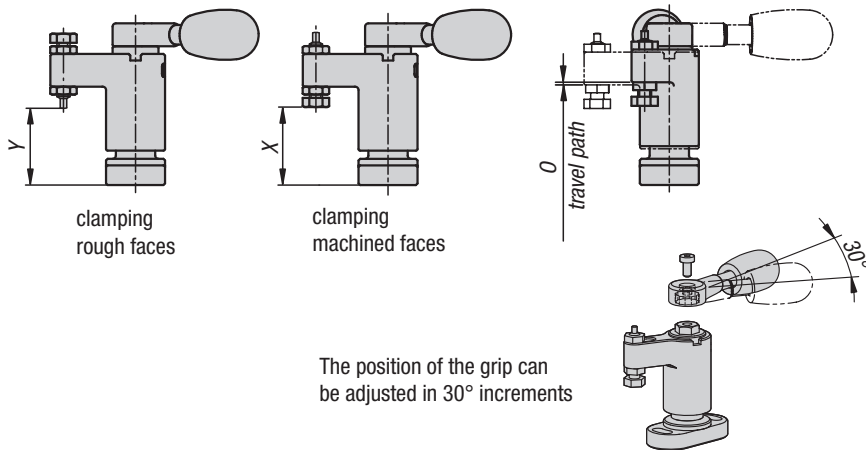
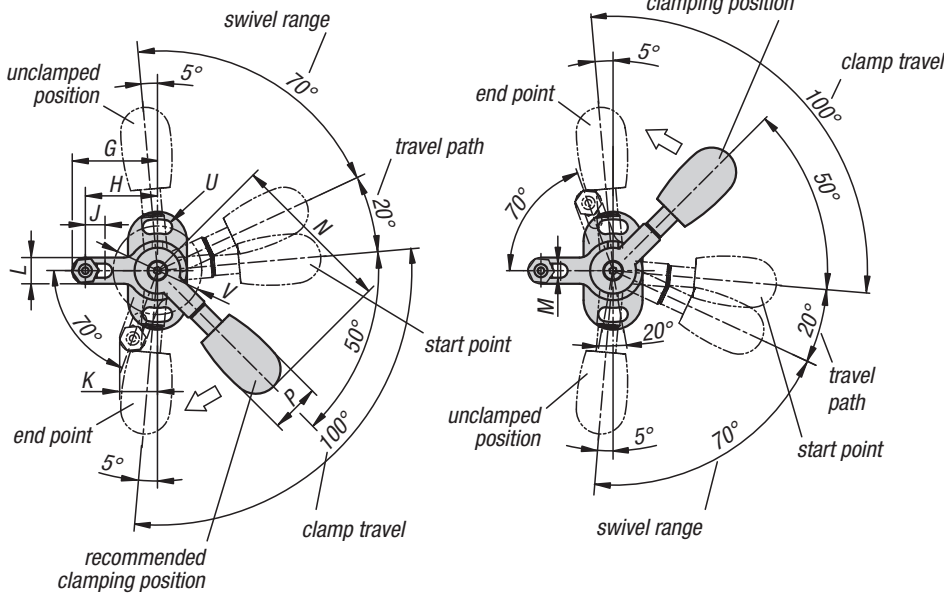
Material:
Carbon steel.
Grip plastic.

Version:
Tempered, black oxidised.
Grip black.

Sample order:
K0926.0100

Note:
Swing clamps are used where the clamping points must be free when the workpiece is loaded or removed.

* Admissible hand force for the handle.



The position of the grip can be adjusted in 30° increments

KIPP Swing clamps mini

Order No. left	Order No. right	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	X min.	X max.	Y min.	Y max.	F=retaining force N	Hand force FH N
K0926.0100	K0926.1100	30	10	18	18	45,8	49	26	22	1	6	11,5	8	4,3	50	0,8	15	36	6	22,8	M4	4,3	27	22,3	25,3	21,9	24,9	1100	100*
K0926.0150	K0926.1150	40	14	23	23	61,3	66	35	30	1,4	8	15,3	10	5,3	63	1,1	20	45	8	28,5	M5	5,3	34	30,6	34	31,5	34,9	1800	150*
K0926.0200	K0926.1200	50	18	30	30	76,5	82	45	37	1,5	8	20,7	16	8,4	80	1,4	26	65	12	45,5	M8	8,4	48	31,7	39,7	32,7	40,7	2200	200*
K0926.0300	K0926.1300	60	22	40	40	93	100	55	45	1,9	8	25,4	20	10,4	100	1,7	33	85	15	57	M10	10,5	64	35,5	46,9	38	49,4	3500	300*

Swing clamps

pneumatic



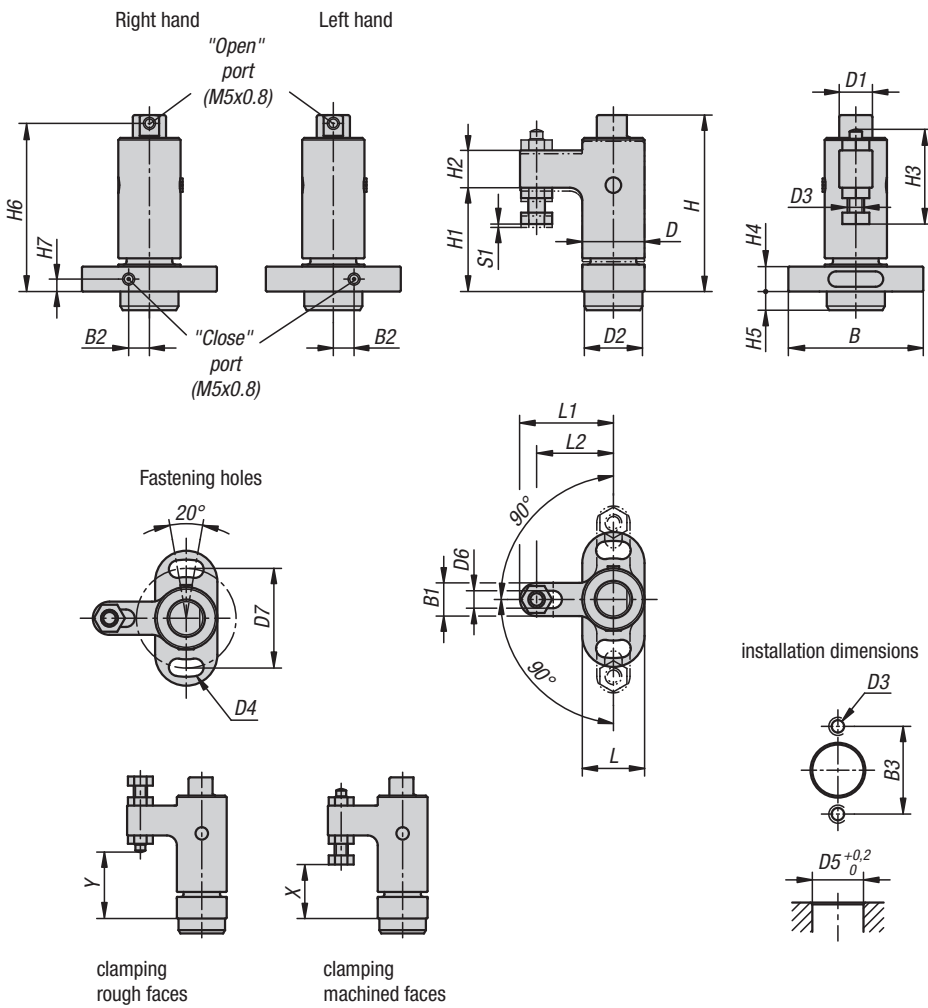
Material:
Carbon steel.

Version:
Clamping element nickel-plated.
Clamping bolt tempered and nickel-plated.

Sample order:
K1388.13945

Note:
The pneumatic swing clamp is suitable for clamping workpieces from above. The swivel and clamping function occurs pneumatically. The swivel function enables unobstructed insertion and removal of the workpiece. Optimum accessibility to the workpiece is guaranteed. The foot of the housing offers universal fastening possibilities, enabling the swing clamp to be optimally aligned with the workpiece being clamped. The swing clamps are available in left or right swivelling versions. Pneumatic swing clamps can also be placed in multiple positions on the workpiece and operated in a particular order. They can be controlled manually or automatically.

The clamping force and retaining force indicated are based on 0.5 MPa.



Swing clamps

pneumatic

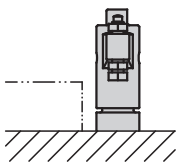


Setting the distance between the workpiece and thrust screw:

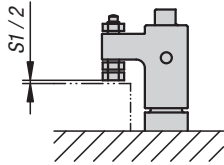
The distance between thrust screw and workpiece should be ca. half of the clamping travel (S1).

The clamping arm swivels in horizontally.

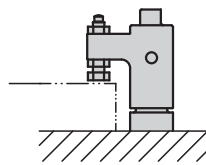
Carry out the following steps to set the thrust screw correctly.



1. Open the clamp by applying compressed air to the "open" port.

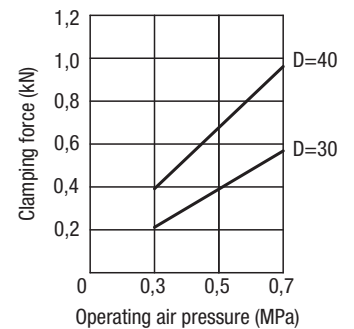


2. Manually swivel the arm to the clamping position. Set the distance between the thrust screw and the workpiece top face to half the clamping travel (S1).



3. Secure the thrust screw in place using locknuts.

Performance curve



KIPP Pneumatic swing clamps

Order No.	Version 1	B	B1	B2	B3	D	D1	D2	D3	D4	D5	D6	D7	H	H1	H2
K1388.13945	right	65	16	10	48	30	16	28	M8	8,4	28	8,4	48	85	50	18
K1388.03945	left	65	16	10	48	30	16	28	M8	8,4	28	8,4	48	85	50	18
K1388.15155	right	85	20	13	64	40	22	35	M10	10,5	35	10,4	64	106	65	22
K1388.05155	left	85	20	13	64	40	22	35	M10	10,5	35	10,4	64	106	65	22

Order No.	H3	H4	H5	H6	H7	L	L1	L2	S1 (travel)	F=retaining force N	Holding force F kN	Operating pressure MPa	X min.	X max.	Y min.	Y max.
K1388.13945	45,5	12	9	81	6	30	45	37	1,2	400	0,8	0,3 - 0,7	32,5	39	33,5	40
K1388.03945	45,5	12	9	81	6	30	45	37	1,2	400	0,8	0,3 - 0,7	32,5	39	33,5	40
K1388.15155	57	15	11	101	8	40	55	45	1,6	650	1,3	0,3 - 0,7	41,5	51	44	53,5
K1388.05155	57	15	11	101	8	40	55	45	1,6	650	1,3	0,3 - 0,7	41,5	51	44	53,5

Swivel hold-down clamp

mini, with cam lever

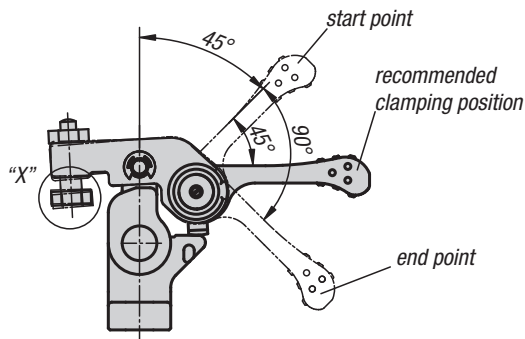
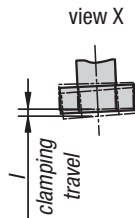
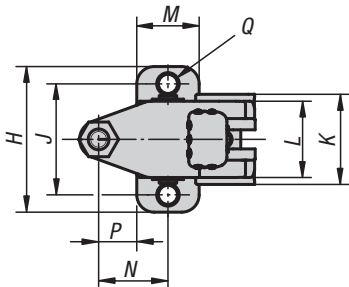
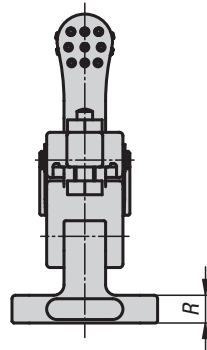
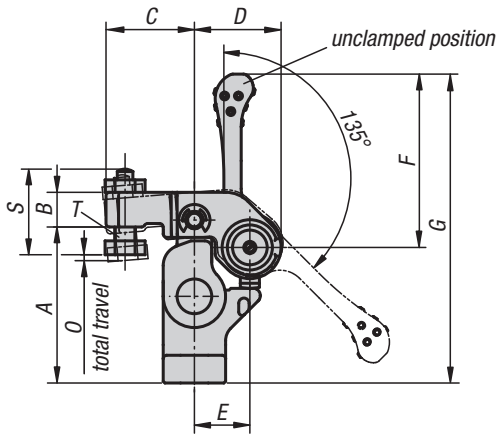


Material:
Carbon steel.

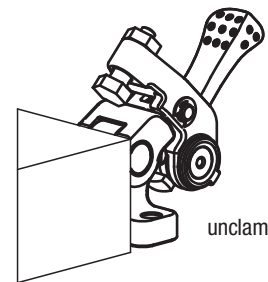
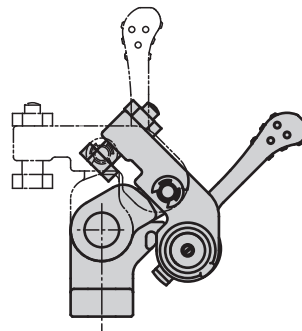
Sample order:
K0927.100

Note:
Swing clamps are used where the clamping points must be free when the workpiece is loaded or removed.

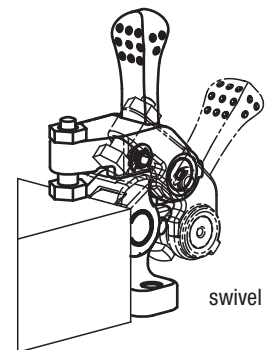
* Admissible hand force for the handle.



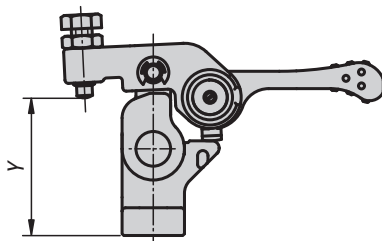
unclamped



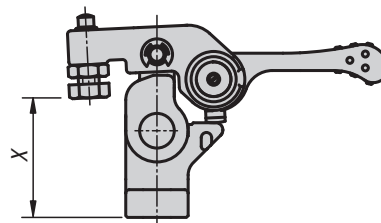
unclamped



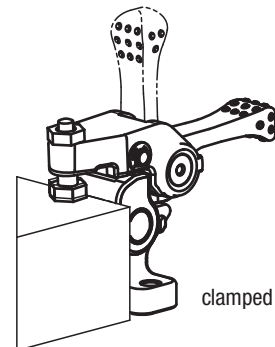
swivel



clamping rough faces



clamping machined faces



clamped

KIPP Swivel hold-down clamp, mini, with cam lever

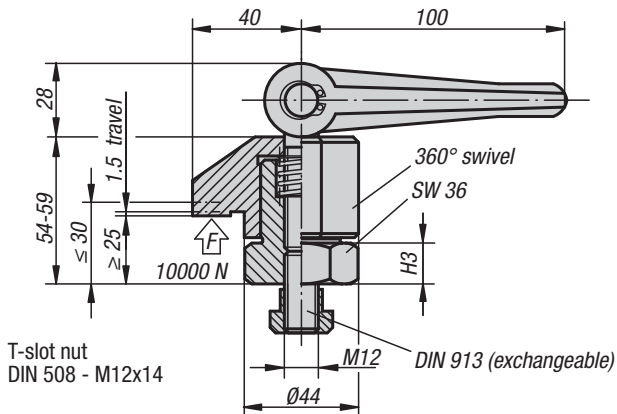
Order No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	X min.	X max.	Y min.	Y max.	F=retaining force N	Hand force FH N
K0927.100	45	10	25,5	25	16	50	89	42	1	32	26	22	18	20	1,5	11	5,5	8	24	M6	31,5	40,5	34,5	43,5	700	100*
K0927.150	55	12	32	31	20	63	109	52	1,2	40	32	28	22	25	1,8	14	6,6	10	30,5	M8	36,4	48,6	41,4	53,6	1100	150*

Down-thrust clamps

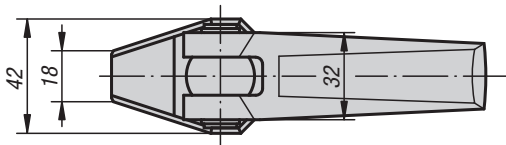


K1231.11

Form A
with cam lever

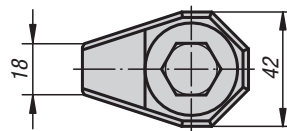
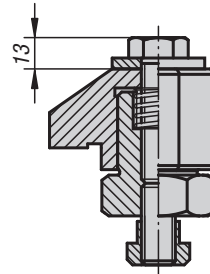


T-slot nut
DIN 508 - M12x14



K1231.21

Form B
with clamping screw



Material:
Steel.

Version:
Case-hardened, black oxidised and ground.

Sample order:
K1231.23

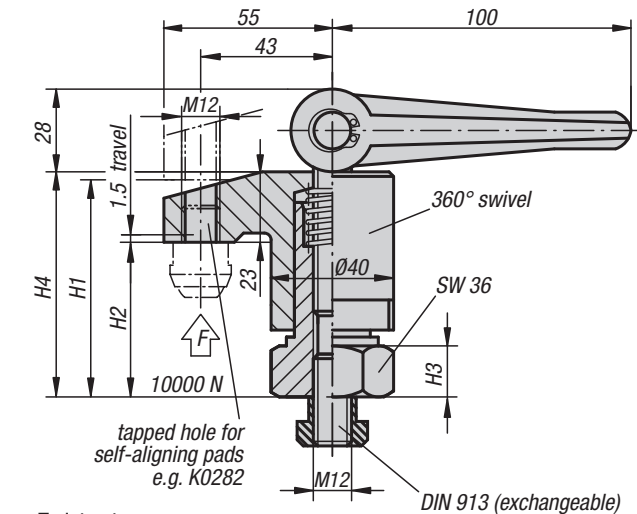
Note:
The clamping heights can be increased with riser bars K0018 and for K1231.12 to K1231.14 and K1231.22 to K1231.24 reduced by self-aligning pads K0282.

- The clamps have the following advantages:
- rapid clamping by hand via threaded spindle and spiral cam.
 - quick and easy workpiece exchange by pivoting the clamp arm.
 - compact design, small clamping space required.
 - simple adaptation to tall clamping heights using the riser cylinders.

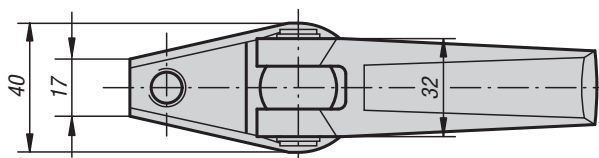
- The clamps can be mounted in two ways:
- 1) in a T-slot.
 - 2) by the M12 screw directly in a fixture base.

K1231.12, K1231.13, K1231.14

Form A
with cam lever

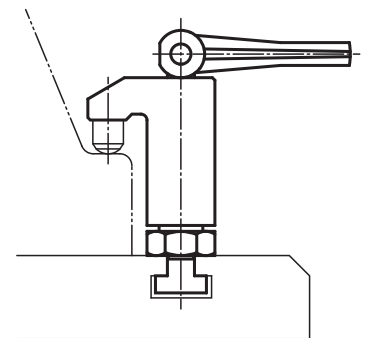
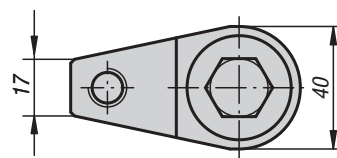
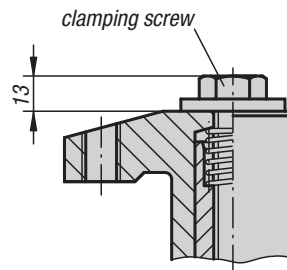


T-slot nut
DIN 508 - M12x14



K1231.22, K1231.23, K1231.24

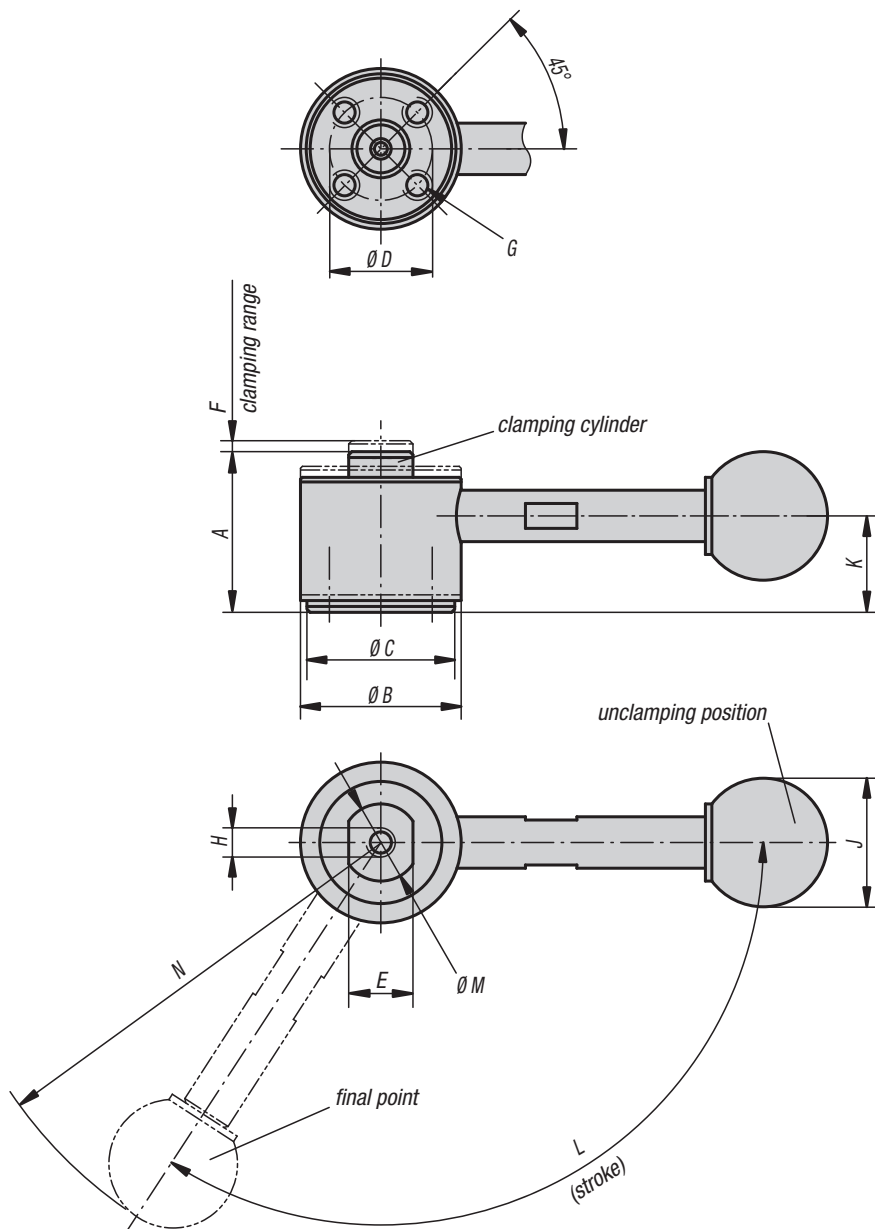
Form B
with clamping screw



KIPP Down-thrust clamps

Order No. Form A	Order No. Form B	Clamping height max. H1	Clamping height min. H2	H3	H4
K1231.11	K1231.21	30	25	15	54-59
K1231.12	K1231.22	70	50	15	73-93
K1231.13	K1231.23	98	68	15	91-121
K1231.14	K1231.24	135	95	22	118-158

Thrust clamps



Material, version:

Cam tool steel, hardened and black oxidised.
 Shaft carbon steel, hardened and black oxidised.
 Grip carbon steel, black oxidised.
 Ball knob black thermoset PF 31.

Sample order:

K0914.252501

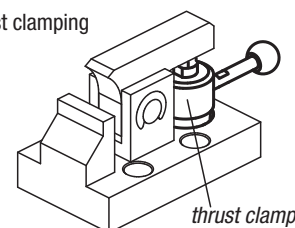
Note:

* Admissible hand force for the handle.

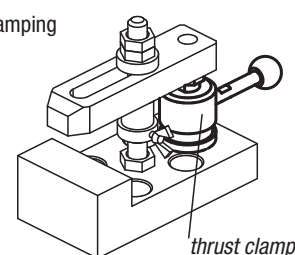
Accessories:

Standard handles K0915.
 Screw-in handles with torque limit K0916.

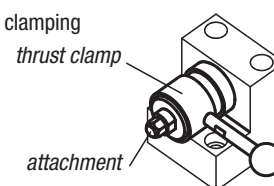
downthrust clamping



vertical clamping



horizontal clamping

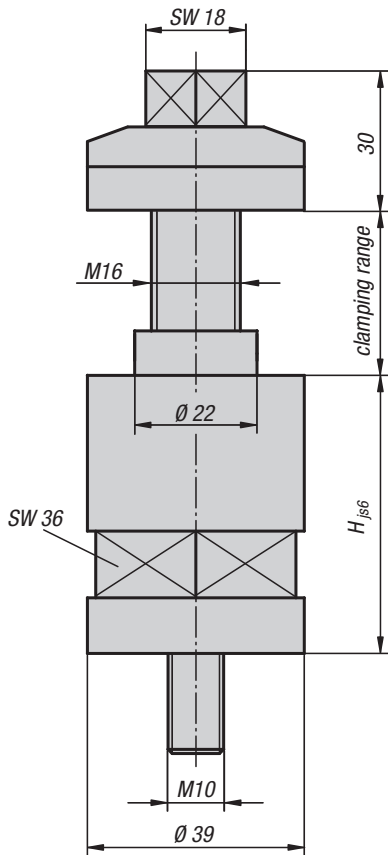


When mounting an attachment on the clamping cylinder, hold the shaft using a spanner to prevent turning.

KIPP Thrust clamps

Order No.	Version 1	A min.	A max.	B	C	D	E	F	G	H	J	K	L	M	N	Clamping force N	Hand force FH N
K0914.252500	without grip	25	26,7	25	23	16	10	1,7	M4 x 6	M4x6	-	15	123°	12	-	3000	150*
K0914.252501	with grip	25	26,7	25	23	16	10	1,7	M4 x 6	M4x6	20	15	123°	12	69,5	3000	150*
K0914.323200	without grip	32	34,5	32	30	20	13	2,5	M6 x 9	M6 x 9	-	19,5	135°	15	-	4000	200*
K0914.323201	with grip	32	34,5	32	30	20	13	2,5	M6 x 9	M6 x 9	25	19,5	135°	15	103	4000	200*

Clamping bolts



Material:

Clamping bolt, steel.
Clamping screw, carbon steel.
Clamping ring brass.

Version:

Clamping bolt hardened and black oxidised.
Clamping screw black oxidised.
Clamping ring bright.

Sample order:

K1232.100

Note:

The clamping bolts can be fixed to the machine table directly with T-slot nuts. Clamping parallel to the table is guaranteed by low tolerance classes (js6) for the height.
The clamping range is 8 – 40 mm. Clamping screws for the ranges 40 – 67 and 65 – 87 mm are also available.
The intermediate plate prevents damage to the machine table, as well as shifting during tightening.
The brass clamping ring prevents impressions on the workpiece.



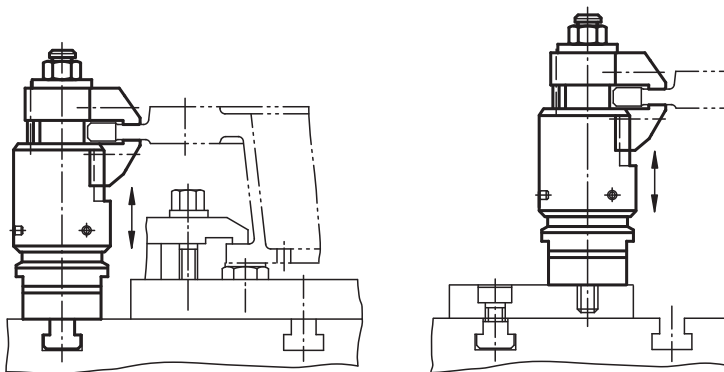
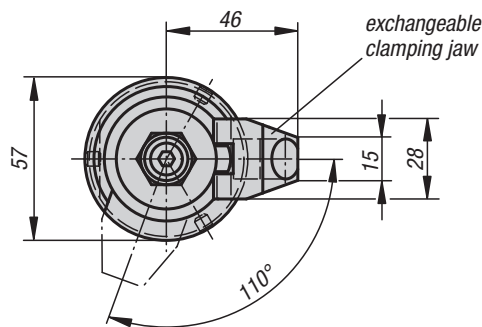
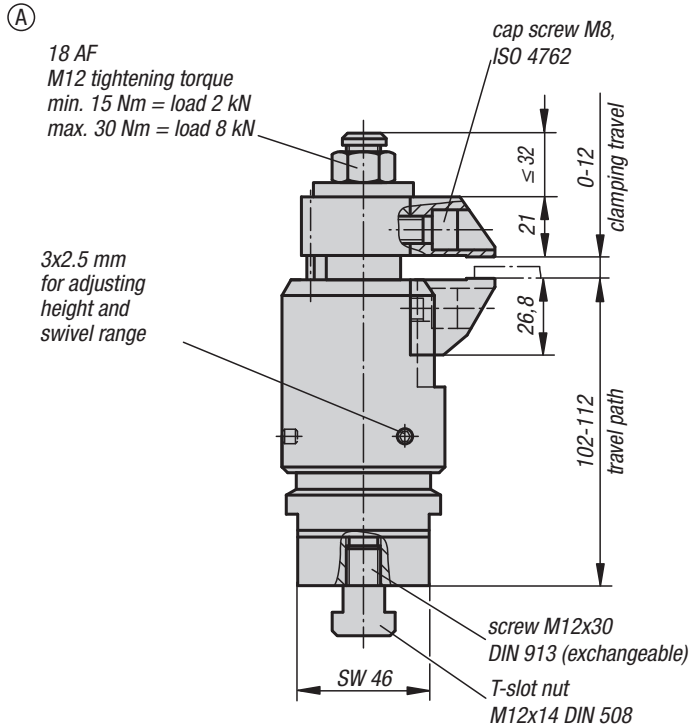
KIPP Clamping bolts

Order No.	H	Clamp range
K1232.050	50	8-40
K1232.100	100	8-40

KIPP Clamping screws

Order No.	Clamp range
K1232.4067	40-67
K1232.6587	65-87

Floating clamp



Material:

Base body and jaws steel.
Housing aluminium.

Version:

Body nitrided, black oxidised and ground.
Jaws nitrided and black oxidised.
Housing red anodised.

Sample order:

K1228.100812

Note:

The floating clamp is used to clamp and support overhanging clamping points on components. It prevents vibrations and deflection during machining.

Method of operation:

1. Push the floating clamp down.
2. Pivot the jaws to the stop. The floating clamp contacts the bottom of the workpiece with a light spring force.
3. Tighten the floating clamp with the SW 18 hexagon nut (note the min. and max. torque). During clamping the workpiece is clamped and simultaneously supported.
4. Reverse the process to release.

Assembly:

Form A:

Fasten the floating clamp to the fixture with the M12 screw.

Adjust the height stop and swivel range using the red sleeve and lock with the 3x2.5 mm grub screws. When setting the height leave generous clearance above.

For safe operation the M12 tapped hole must always be closed.

For specific clamping applications the standard jaws can be altered or replaced.

Form B:

Fasten floating clamp with M6 fastening hole to a fixture.

Adjust the height stop and pivot range with the red adjusting sleeve and clamp with grub screws (4x AF 2.5). When setting the height limit, allow ample play at the top.

For specific clamping situations, the standard jaw plates can be modified or replaced.

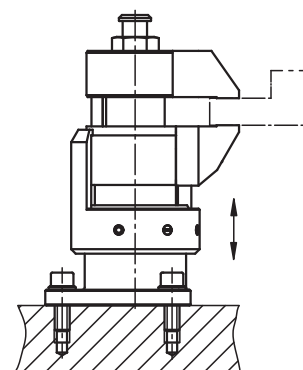
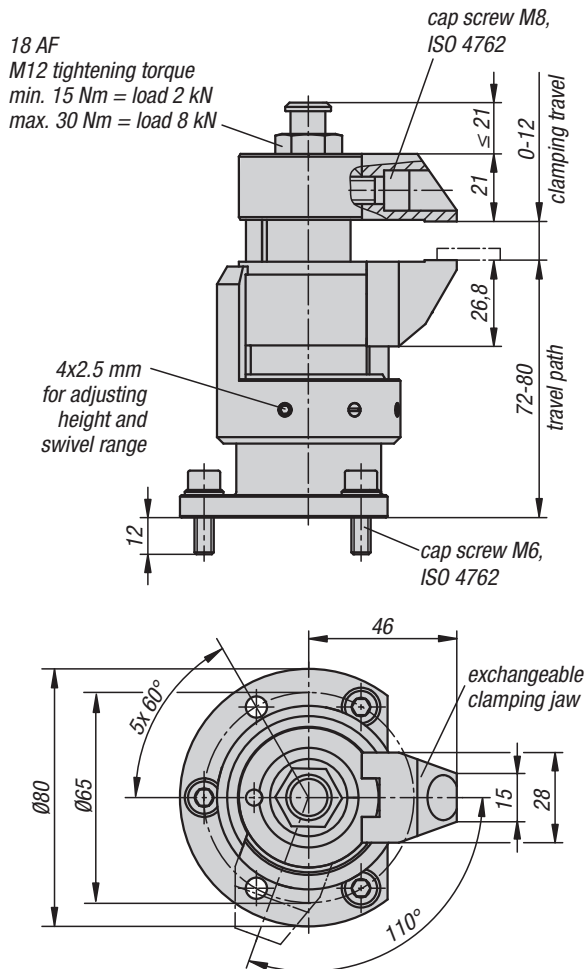
KIPP Floating clamp

Order No.	Travel path	max. clamping travel	Load capacity N	Clamping force N
K1228.100812	10	12	8000	8000

Floating clamp



Ⓑ



KIPP Floating clamp

Order No.	Travel path	max. clamping travel	Load capacity N	Clamping force N
K1228.080812	8	12	8000	8000

Floating clamp

with separate workpiece clamp and interlock



Material:

Base body and jaws steel.
Housing aluminium.

Version:

Body nitrided, black oxidised and ground.
Jaws nitrided and black oxidised.
Housing blue anodised.

Sample order:

K1227.100812

Note:

The floating clamp is used to clamp and support overhanging points on thin walled, sensitive and pliable components. It prevents vibrations and bending during machining.

Method of operation:

1. Push the floating clamp down.
2. Pivot the jaws in. The lower jaw contacts the workpiece with a light spring force.
3. Tighten the AF 18 hexagon nut with max. 15 Nm torque. The jaws clamp the workpiece, the clamp is still floating.
4. Tighten the AF 10 hexagon nut with max. 10 Nm torque. The clamping process is completed.
5. Reverse the process to release.

Assembly:

Form A:

Fasten the floating clamp to the fixture with the M12 screw.

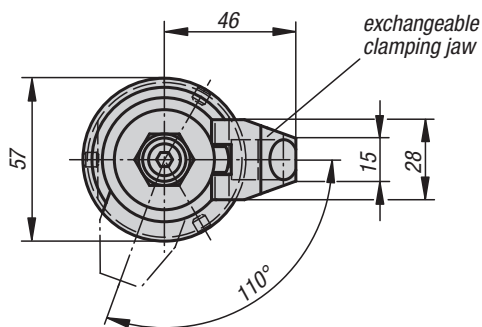
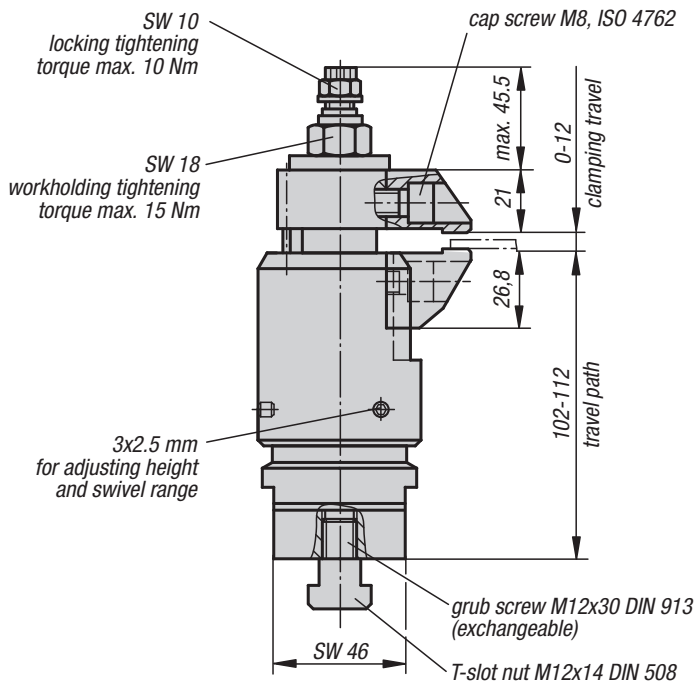
Adjust the height stop and the swivel range using the blue sleeve and lock with the 3x2.5 mm grub screws.

When setting the height leave generous clearance above.

For safe operation the M12 tapped hole must always be closed.

For specific clamping applications the standard jaws

Ⓐ



KIPP Floating clamp with separate workpiece clamp and interlock

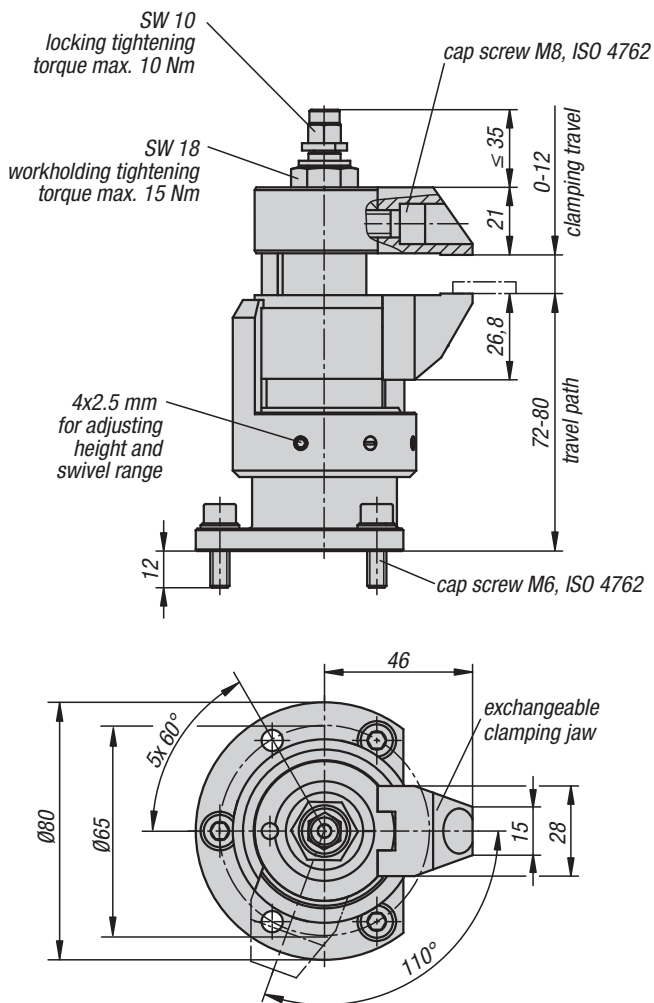
Order No.	Form	Travel path	max. clamping travel	Load capacity N	Clamping force N
K1227.100812	A	10	12	8000	8000

Floating clamp

with separate workpiece clamp and interlock



Ⓑ



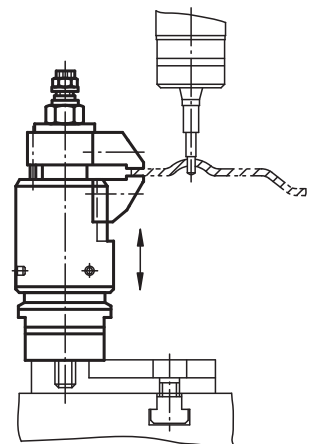
can be altered or replaced.

Form B:

Fasten the floating clamp with M6 fastening holes to a fixture.

Adjust the height stop and pivot range using the blue adjusting sleeve and clamp with grub screws (4x AF 2.5). When setting the height limit, allow ample play at the top.

For specific clamping situations, the standard jaw plates can be modified or replaced.

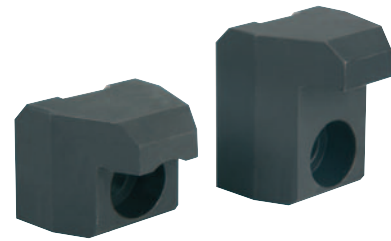


KIPP Floating clamp with separate workpiece clamp and interlock

Order No.	Form	Travel path	max. clamping travel	Load capacity N	Clamping force N
K1227.080812	B	8	12	8000	8000

Clamping jaws

for floating clamps

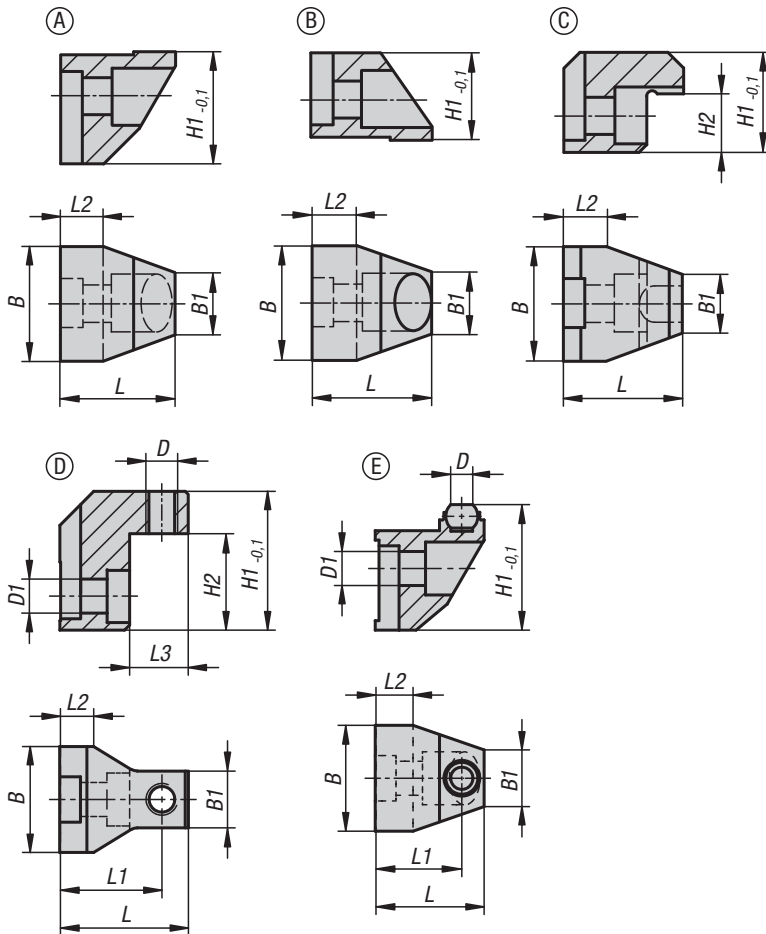


Material:
Steel.

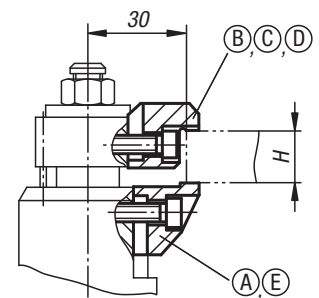
Version:
Nitrided and black oxidised.

Sample order:
K1490.90000

Note:
The clamping jaws can be used for floating clamps to increase the clamping range.



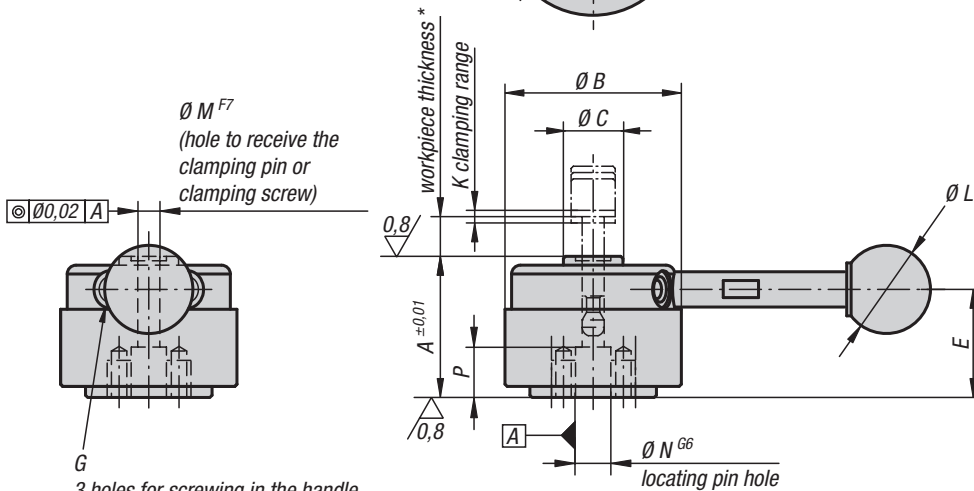
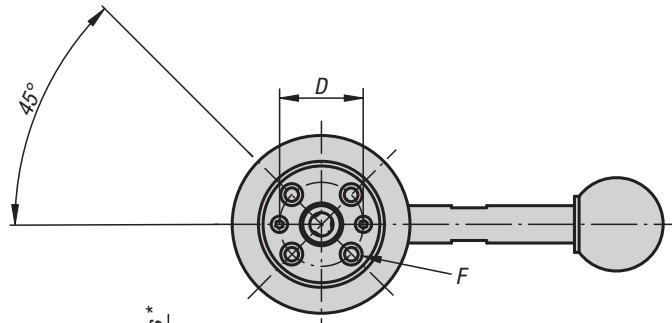
Order No.	H = clamping range max. in combination with K1490.90000 [mm]	H = clamping range max. in combination with K1490.910000 [mm]
K1490.90416	4-16	-
K1490.91527	15-27	-
K1490.92638	26-38	-
K1490.90029	29	23
K1490.90040	40	34



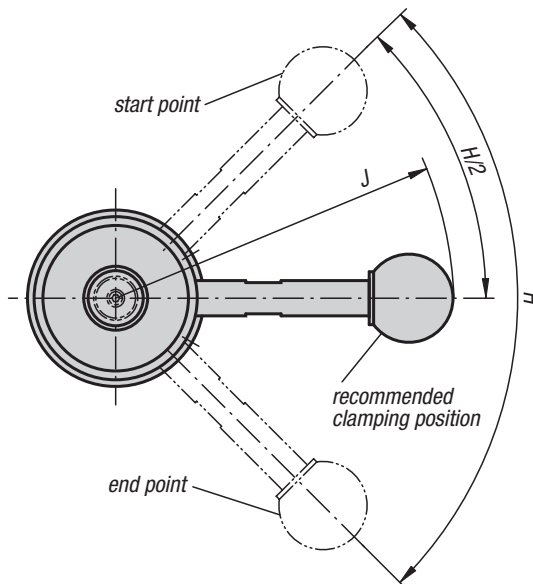
KIPP Clamping jaws for floating clamps

Order No.	Form	Version 1	B	B1	D	D1	H	H1	H2	L	L1	L2	L3	
							clamping range							
K1490.90000	A	standard lower jaw	28	15	-	-	-	26,8	-	28	-	10	-	
K1490.90012	B	standard upper jaw	28	15	-	-	0 - 12	21	-	29,5	-	11,5	-	
K1490.90416	C	exchange upper jaw	28	15	-	-	4 - 16	24,5	3,5	29,5	-	11,5	-	
K1490.91527	C	exchange upper jaw	28	15	-	-	15 - 27	24,5	14,5	29,5	-	11,5	-	
K1490.92638	C	exchange upper jaw	28	15	-	-	26 - 38	35,5	25,5	29,5	-	11,5	-	
K1490.90029	D	upper jaw	28	15	M8	4,5	-	29,5	16,5	31,5	24,5	8	16	
K1490.90040	D	upper jaw	28	15	M8	4,5	-	40,5	27,5	31,5	24,5	8	16	
K1490.910000	E	lower jaw	28	15	5,8	4,5	-	32,8	-	30	23	10	-	

Pull clamps



G
3 holes for screwing in the handle
(the angle between each hole is 30°)
3 possible handle positions



Material:

Housing and cam tool steel.
Grip carbon steel.
Ball knob thermoset PF 31.

Version:

Housing and cam hardened and black oxidised.
Grip black oxidised.
Ball knob black.

Sample order:

K0910.324001

Note:

* Max. workpiece thickness see clamping pin K0910 (dimension C).
** Admissible hand force for the handle.

Accessories:

Standard handles K0915.
Screw-in handles with adjustable torque K0916.

KIPP Pull clamps

Order No.	Version 1	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Clamping force N	Recommended workpiece thickness tolerance	Hand force FH N	Holding force N
K0910.324000	without grip	32	40	13,5	18	24,5	M4x8	M5	90°	-	1,5	-	5	8	10	900	±0,3*	150**	2000
K0910.324001	with grip	32	40	13,5	18	24,5	M4x8	M5	90°	76,5	1,5	20	5	8	10	900	±0,3*	150**	2000
K0910.405000	without grip	40	50	18	25	30,7	M6x9	M6	110°	-	2	-	8	12	13	2500	±0,5*	200**	5500
K0910.405001	with grip	40	50	18	25	30,7	M6x9	M6	110°	111,5	2	25	8	12	13	2500	±0,5*	200**	5500

Clamping pins



Material:

Carbon steel.

Version:

Pins tempered and ground.

Knurled knob tempered, black oxidised.

Sample order:

K0910.005050

Note:

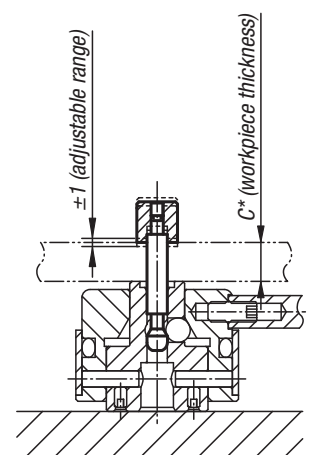
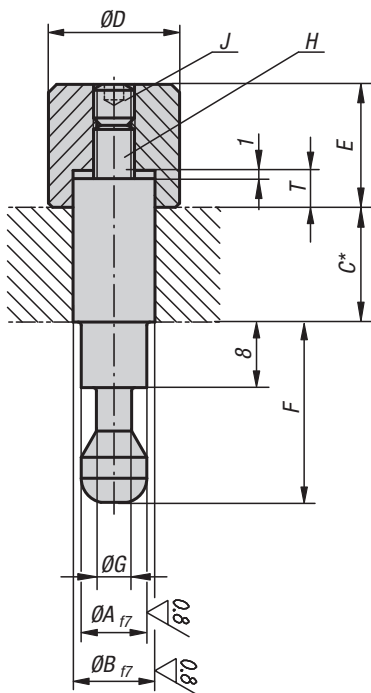
* The clamping pin can be altered to suit the workpiece thickness.

Accessories:

to:

K0910.3240... (K0910.005050 and K0910.006050),

K0910.4050... (K0910.008080 and K0910.010080)



KIPP Clamping pins

Order No.	A	B	C	D	E	F	G	H	J	T
K0910.005050	5	5	50	10	10	17	3	M3	M3x4	3
K0910.006050	5	6	50	10	10	17	3	M3	M3x4	3
K0910.008080	8	8	80	16	15	22	4,3	M5	M5x5	4,5
K0910.010080	8	10	80	16	15	22	4,3	M5	M5x5	4,5

Clamping screws

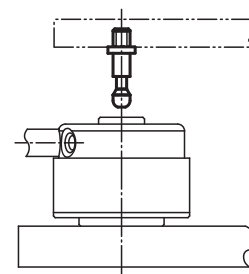
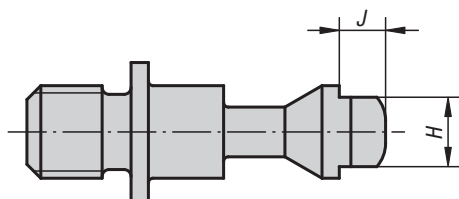
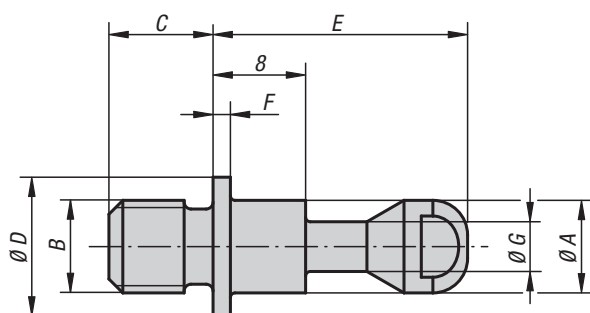


Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0910.105060

Accessories:
To:
K0910.3240 for K0910.105060 and K0910.106070,
K0910.4050 for K0910.108090 and K0910.110110

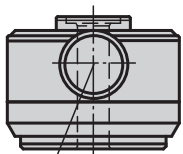


KIPP Clamping screws

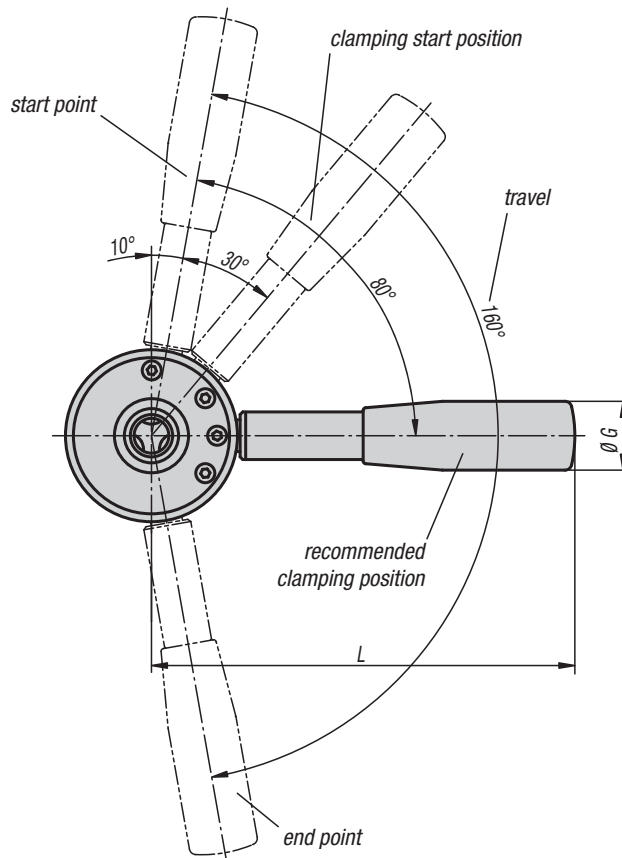
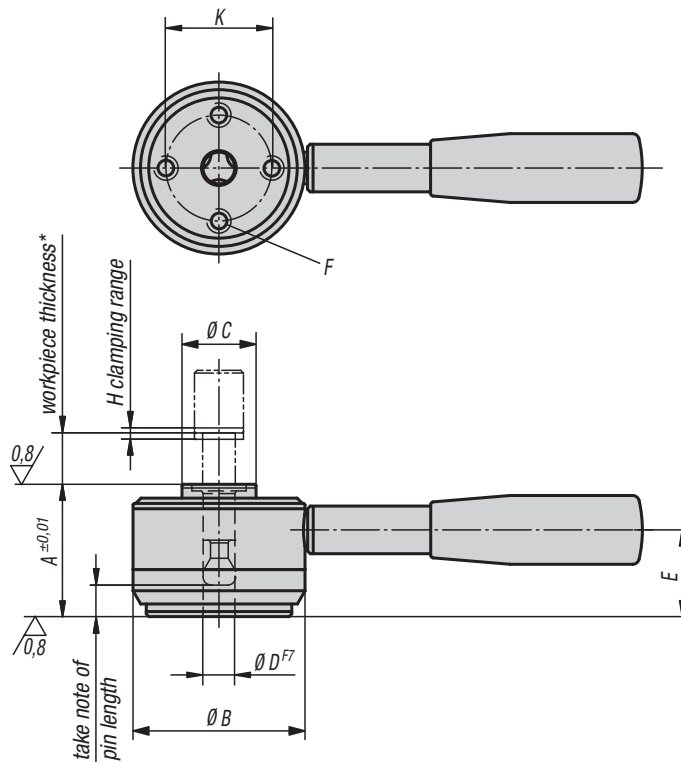
Order No.	A	B	C	D	E	F	G	H	J
K0910.105060	5	M5	6	8	17	1,2	3	4	2,5
K0910.106070	5	M6	7	8	17	1,2	3	4	2,5
K0910.108090	8	M8	9	12	22	1,5	4,3	6	4
K0910.110110	8	M10	11	12	22	1,5	4,3	6	4

Pull clamps

(high force)



J
3 holes for screwing in the handle
(angle between each hole is 35°)
3 possible handle positions



Material:

Housing, clamping ring and handles, carbon steel.
Grip thermoset PF 31.

Version:

Housing and clamping ring hardened and black oxidised.
Handles black oxidised.
Grip black.

Sample order:

K0911.506501

Note:

When clamping with a high force clamping pin the recommended workpiece tolerances must be maintained. The grip lever must lay between the recommended clamping position and end point for safe clamping.

* Max. workpiece thickness, see clamping pin K0911 (dimension C).

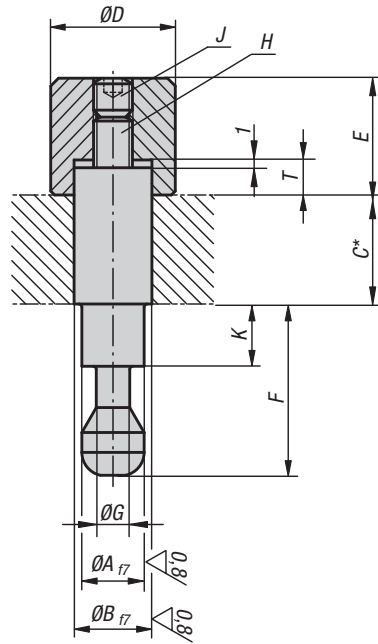
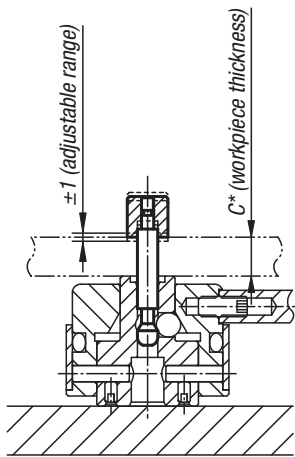
** Admissible hand force for the handle.

KIPP Pull clamps (high force)

Order No.	A	B	C	D	E	F	G	H	J	K	L	Clamping force N	Recommended workpiece thickness tolerance	Hand force FH N	Holding force N
K0911.506501	50	65	28	12	36	M8x14	26	2	10	40	160	6000	±0,5*	600**	8000
K0911.638001	63	80	34	16	45	M10x18	28	2,5	12	50	180	8000	±0,8*	600**	14000

Clamping pins

(high force)



Material:
Carbon steel.

Version:
Pins tempered and ground.
Knurled knob tempered,
black oxidised.

Sample order:
K0911.412100

Note:
* The clamping pin can be altered to suit the
workpiece thickness.

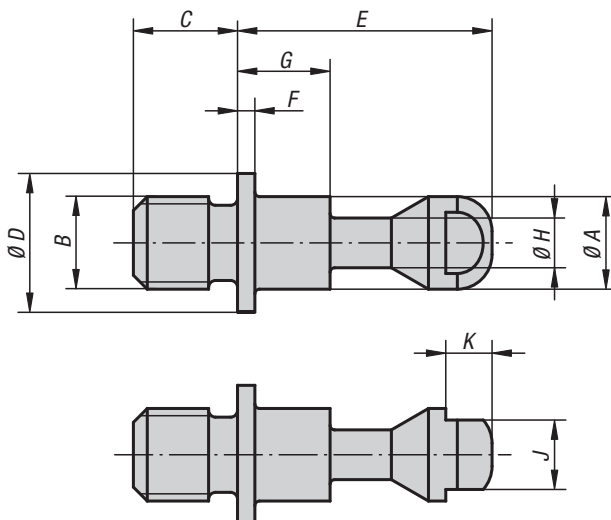


KIPP Clamping pins (high force)

Order No.	A	B	C	D	E	F	G	H	J	K	T	Suitable for
K0911.412100	12	12	100	18	23	38	6,5	M8	M8x8	21,5	7	K0911.506501
K0911.416100	12	16	100	24	23	38	6,5	M8	M8x8	21,5	7	K0911.506501
K0911.516120	16	16	120	24	29	48	9,5	M10	M10x10	28	9	K0911.638001
K0911.520120	16	20	120	30	29	48	9,5	M10	M10x10	28	9	K0911.638001

Clamping screws

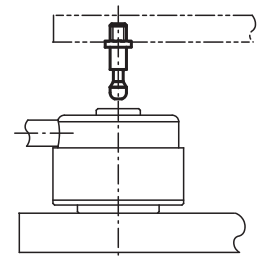
(high force)



Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0911.1412013



KIPP Clamping screws (high force)

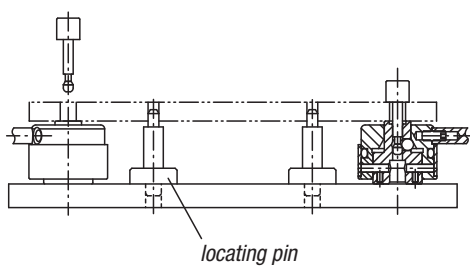
Order No.	A	B	C	D	E	F	G	H	J	K	Suitable for
K0911.1412013	12	M12	13	20	38	2	21,5	6,5	10	4	K0911.506501
K0911.1416017	12	M16	17	20	38	2	21,5	6,5	10	4	K0911.506501
K0911.1516017	16	M16	17	25	48	2,5	28	9,5	13	5	K0911.638001
K0911.1520021	16	M20	21	25	48	2,5	28	9,5	13	5	K0911.638001

How to locate workpiece

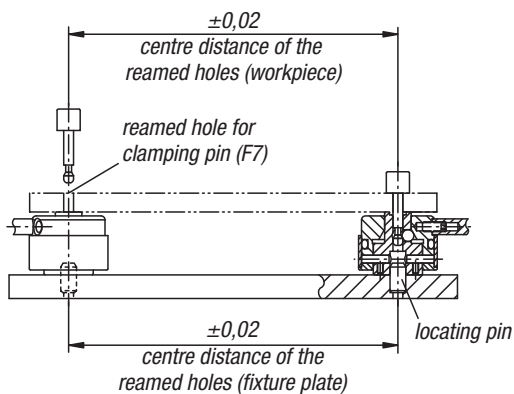


Workpiece positioning

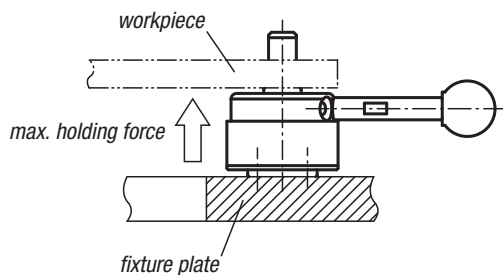
Clamping by means of pull clamp and clamping pin



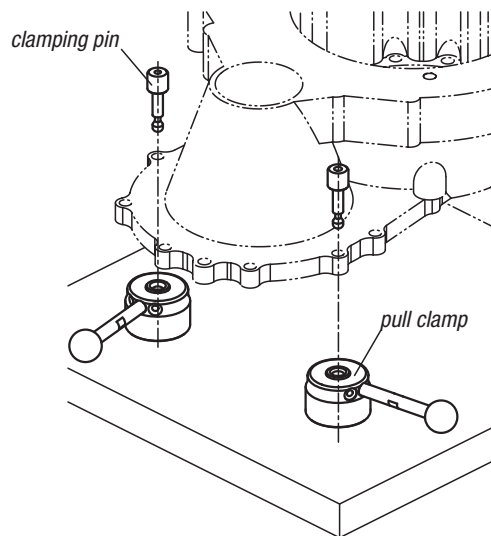
Simultaneous clamping and positioning of a workpiece



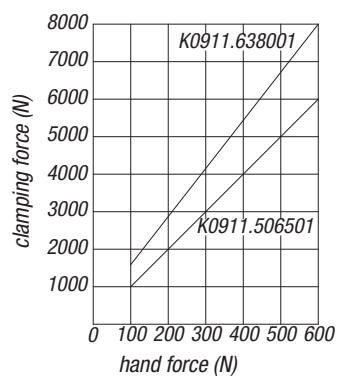
Holding forces for workpiece processing



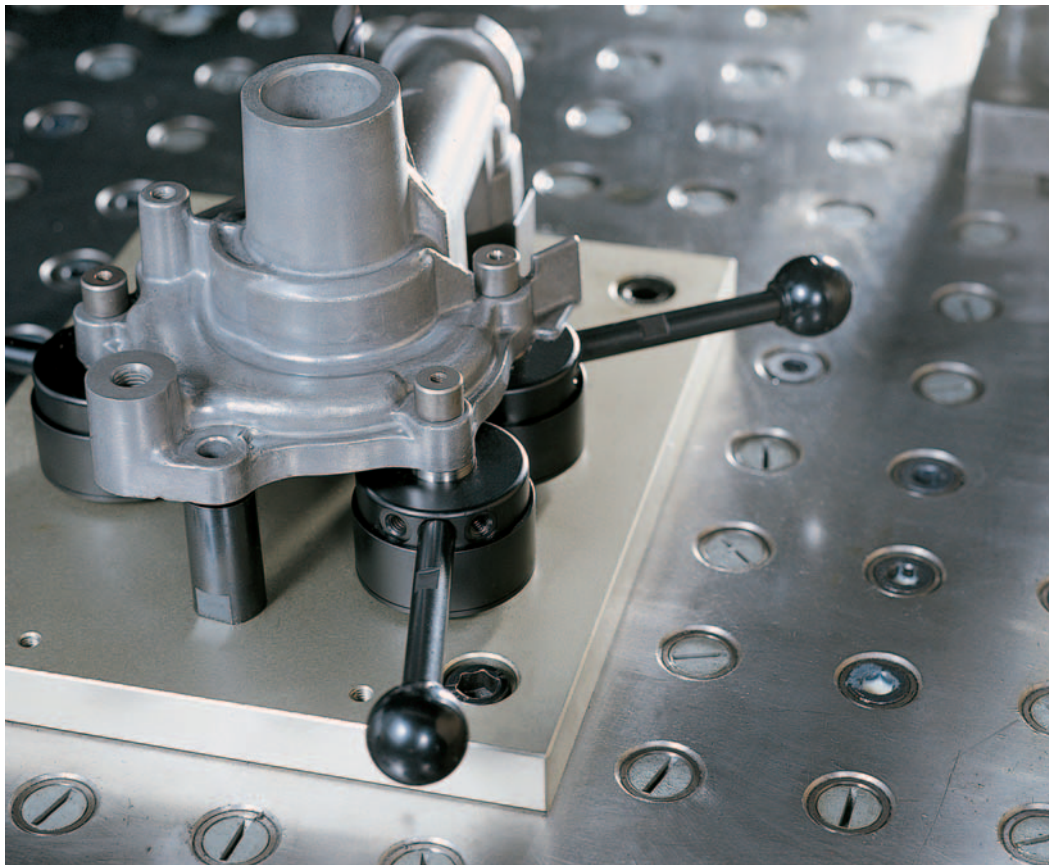
Make sure that no force exceeding the values in the table is affecting the bottom of the workpiece.



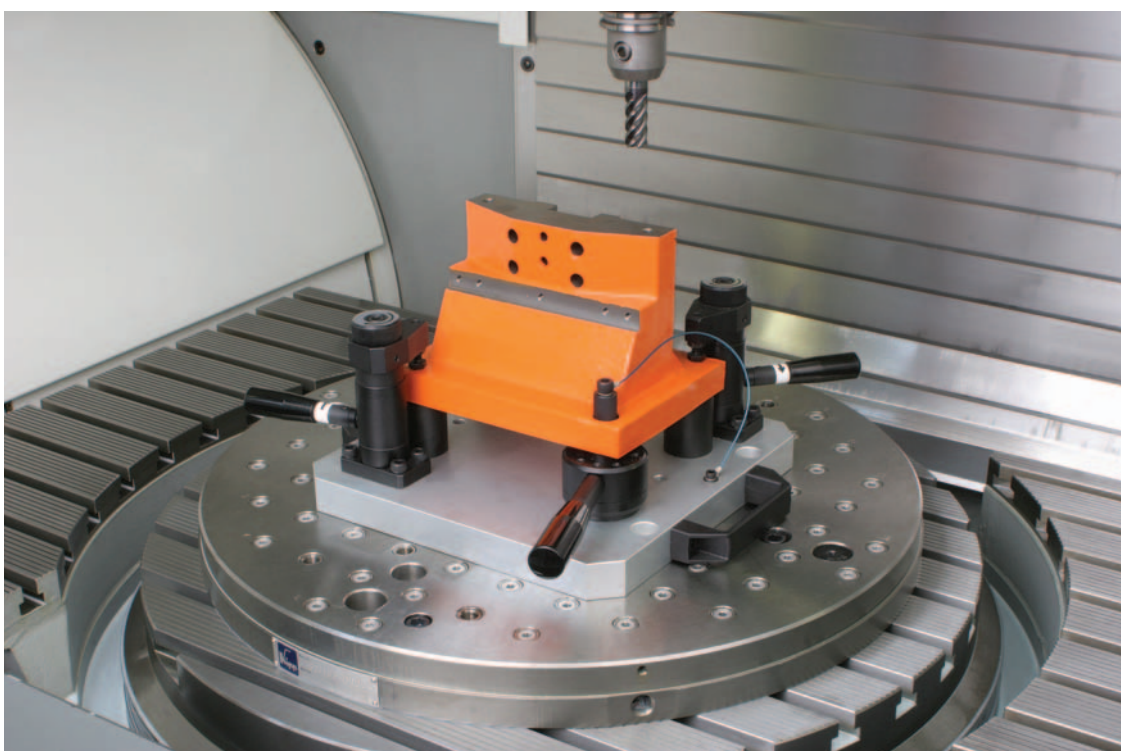
performance curve



Pull clamps

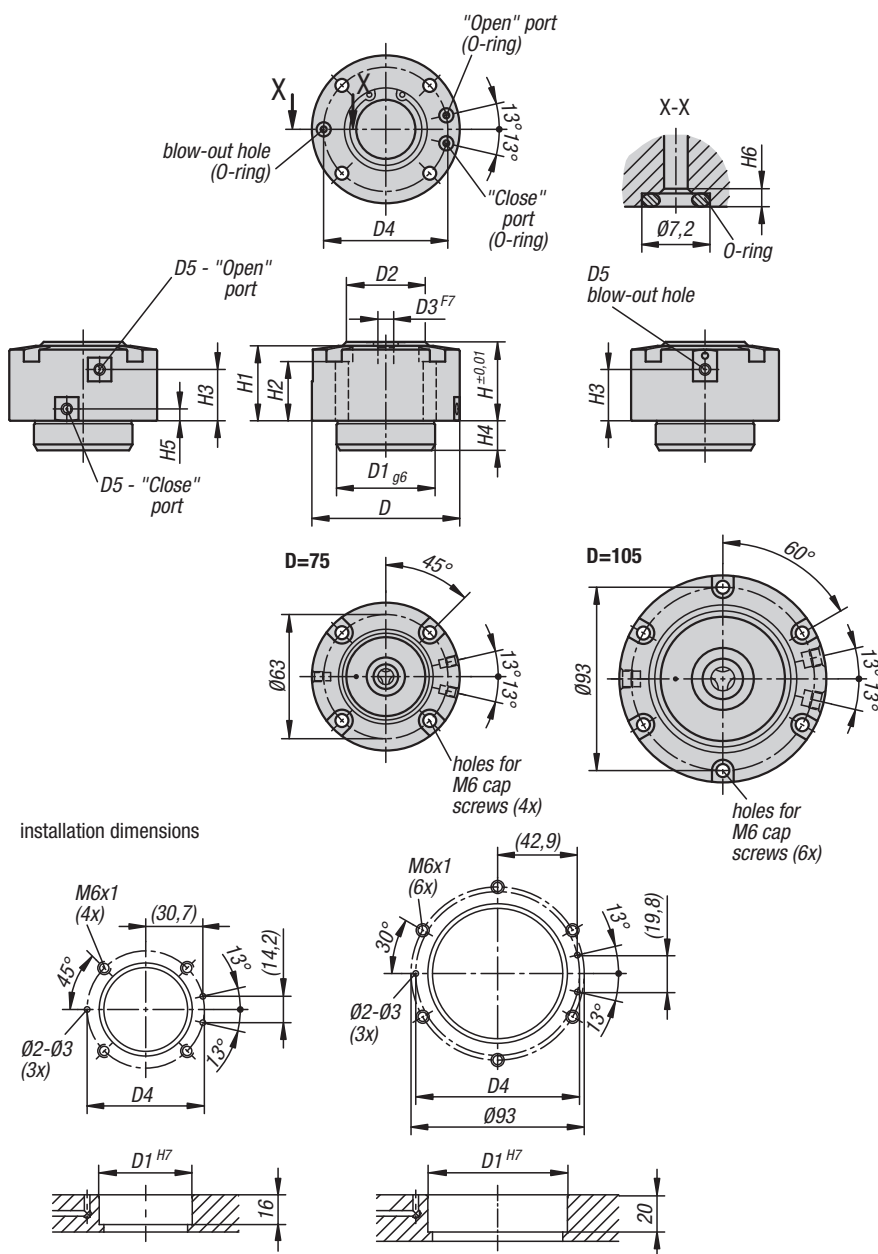


Pull clamps + Swing clamps (high force)



Pull clamps

pneumatic



Material:

Carbon steel.

Version:

Clamping element hardened, ground and black oxidised.

Sample order:

K1390.40075

Note:

Pneumatic pull clamps are used to clamp workpieces and fixtures.

The draw bolts are screwed onto the workpiece or fixture.

Clamping procedure:

Open the clamping element by applying compressed air to the „open“ connection.

Close clamping element (for clamping) by applying compressed air to the „close“ connection.

The third connection (D5) is used to blow out and clean the seating face. It can also be used to ensure the workpiece is correctly seated, or to ease lifting the workpiece off after the opening procedure.

The system can also be used as a zero-point clamping system.

The clamping forces indicated are based on 0.5 MPa.

KIPP Pull clamps, pneumatic

Order No.	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	H5	H6	Clamping force kN	Operating pressure MPa
K1390.40075	75	50	40	8	63	M5	40	38	30	26	15	6	1,9	1	0,3 - 1,0
K1390.50105	105	75	63	12	88	G 1/8	50	47	35	31	19	10	1,9	2,5	0,3 - 1,0

Pull clamps

pneumatic

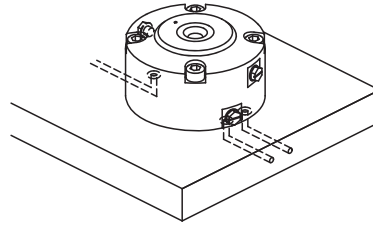
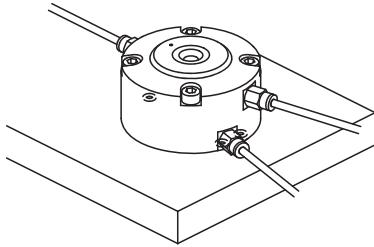
Mounting instructions:

Using the side ports:

- Seal the lower ports with the O-rings provided.
- Check that no air coming is escaping from here.

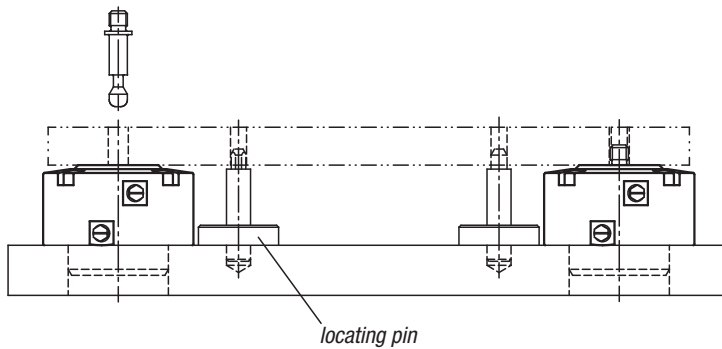
Using the lower ports:

- Fit the O-rings provided into the lower port.
- The side ports must be closed.

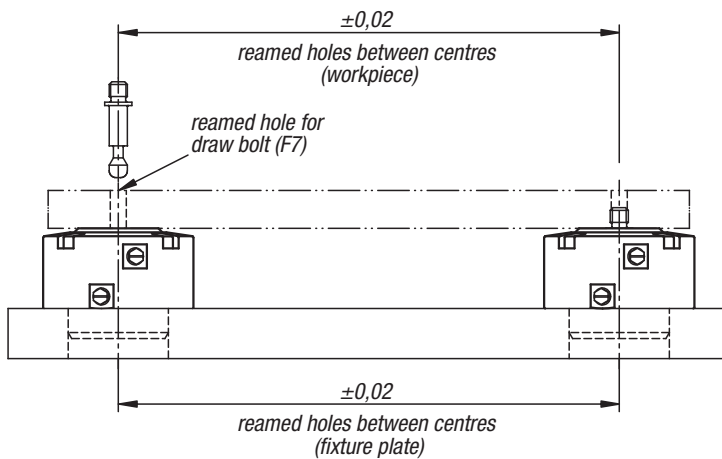


Positioning the workpiece

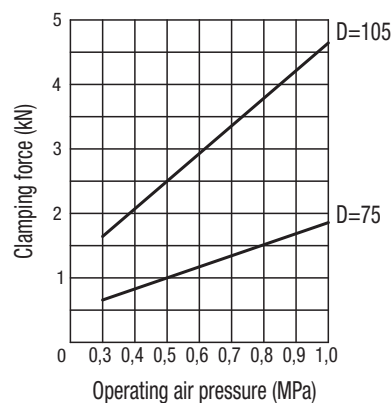
Clamping with pull clamp and draw bolt



Simultaneous clamping and positioning of a workpiece

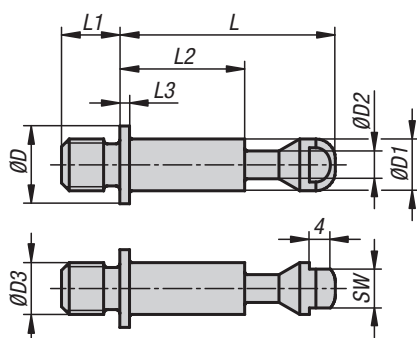


Performance curve



Draw bolts

for pneumatic pull clamps



Material:
Carbon steel.

Version:
Tempered and black oxidised.

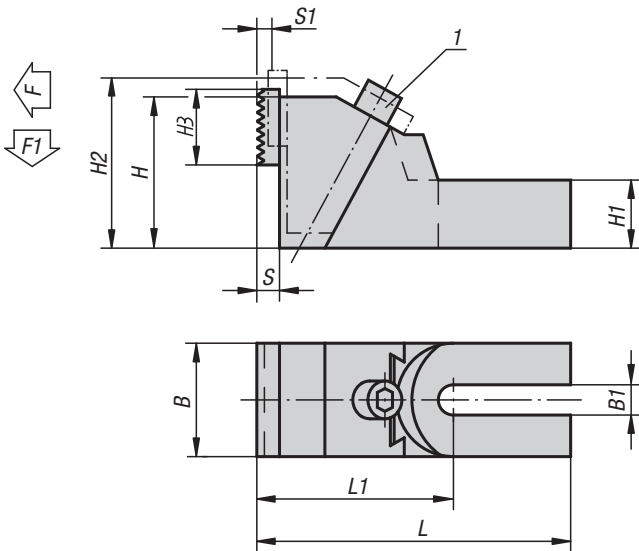
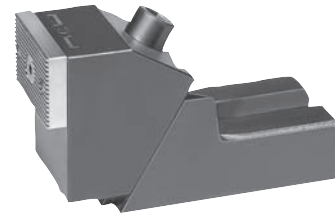
Sample order:
K1391.108090

Note:
These draw bolts for the pneumatic pull clamp are screwed directly into the workpiece. This enables the workpiece to be quickly connected to and released from the pull clamp over a pneumatic valve. The system can also be used as a zero-point clamping system.

KIPP Clamping screws for pneumatic pull clamps

Order No.	D	D1	D2	D3	L	L1	L2	L3	SW
K1391.108090	12	8	4,3	M8	38	9	24	1,5	6
K1391.110011	12	8	4,3	M10	38	11	24	1,5	6
K1391.112013	20	12	6,5	M12	48	13	31,5	2	10
K1391.116017	20	12	6,5	M16	48	17	31,5	2	10

Robust side clamps



Material:

Body malleable iron.
Jaws mild steel.

Version:

Black oxidised.
Jaws case-hardened.

Sample order:

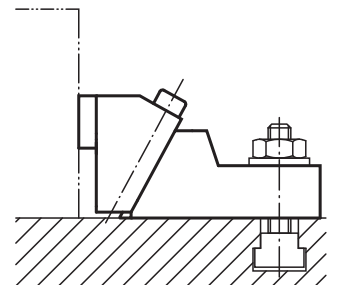
K0891.26

Note:

The jaws are reversible, smooth side for machined parts, serrated side for rough surfaces. We recommend using two bolts to mount the clamp to the machine table!

Drawing reference:

1) tightening torque max. 50 Nm

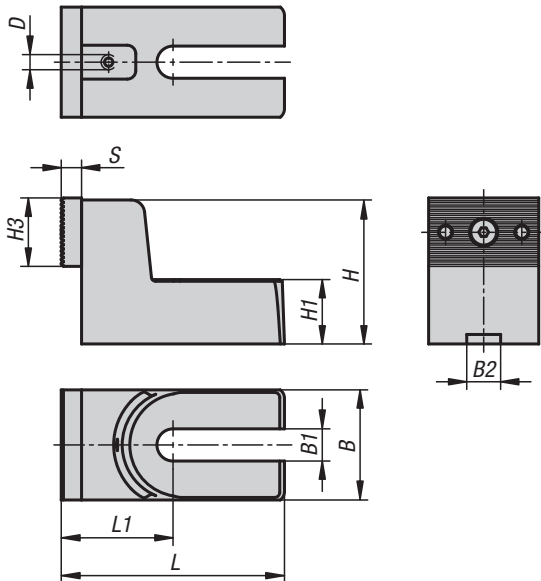


KIPP Robust side clamps

Order No.	suitable for slot width	L	L1	B	B1	H	H1	H2	H3	S	S1	F N	F1 N
K0891.19	12,14,16,18	177,5	112,5	65	19	85	37	99	40	12	8	18800	2260
K0891.26	20,22,24,28,30	226,5	136,5	75	26	100	45	118	40	12	11	23050	2770
K0891.38	32,36,42	262,5	157,5	90	38	120	55	145	40	12	15	29400	3330

Fixed jaws

for robust side clamps



Material:

Cast steel body
Low-carbon steel jaw plates.

Version:

Black oxidised.
Jaw plates case-hardened.

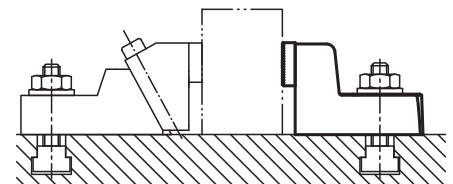
Sample order:

K1467.19

Note:

Fixed jaws for workpieces or fixtures which are clamped or fastened on the machine table using a robust side clamp. The jaw plates are reversible, smooth side for machined faces, serrated side for rough faces.

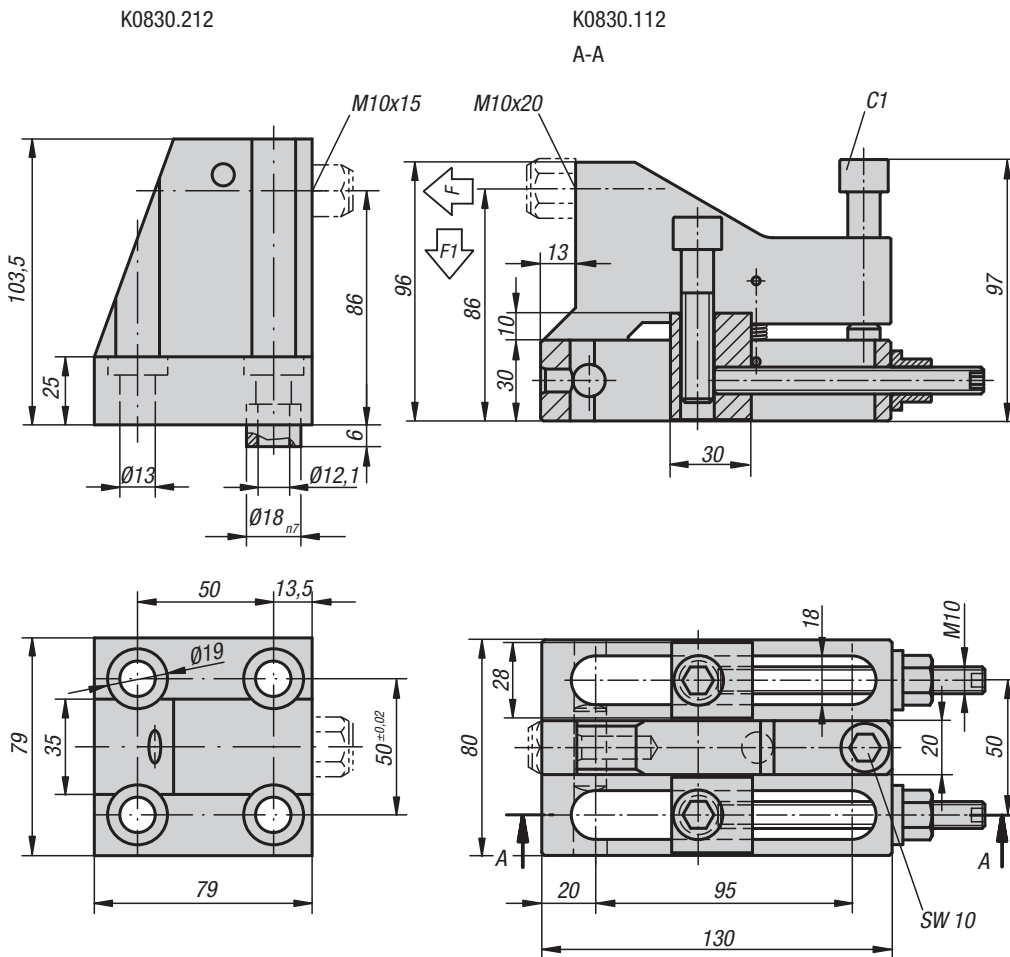
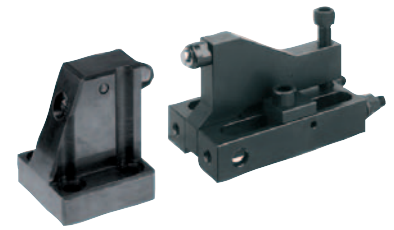
A flat slot key can be used to position the jaw precisely in the machine table slot.



KIPP Fixed jaws for robust side clamps

Order No.	suitable for slot width	B	B1	B2	D	H	H1	H3	L	L1	S
K1467.19	12,14,16,18	65	19	20	M6	85	38	40	132	66	12
K1467.26	20,22,24,28,30	75	26	20	M6	100	45	40	177	85,5	12
K1467.38	32,36,42	90	38	20	M6	120	56	40	211	95	12

Side clamps



Material:
Body steel 1.1191.

Version:
Black oxidised.
Centring bush hardened.

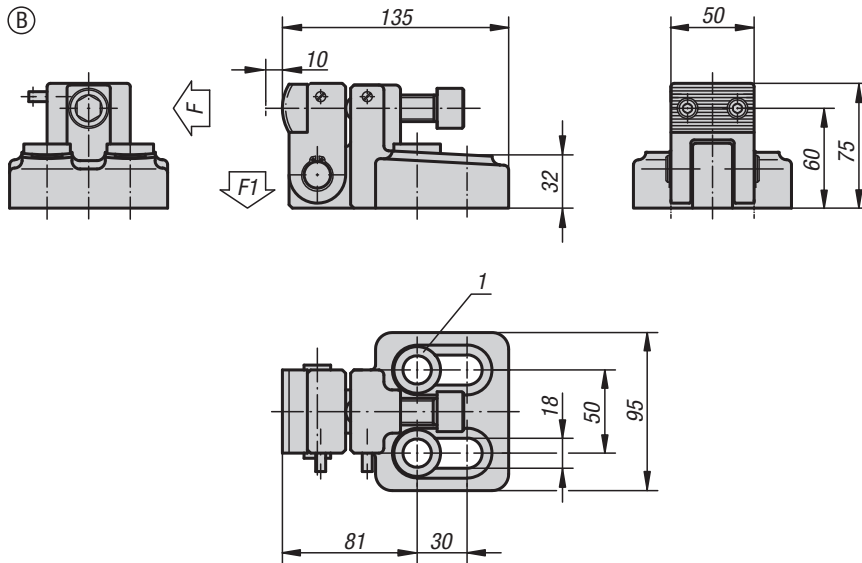
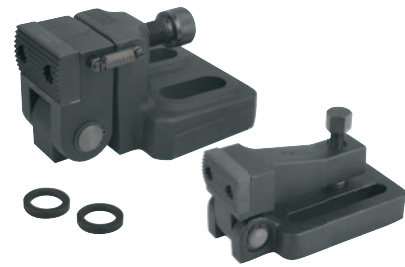
Sample order:
K0830.112
(self-aligning pad not supplied)

Note:
The unit comprises of an adjustable side clamp and a side stop and are used to clamp workpieces with a simultaneous positive down force. The side clamp has two DIN 913 grub screws which can be set to prevent backward slippage during clamping.

KIPP Side clamps

Order No.	F N	F1 N	Tightening torque of screw C1 Nm
K0830.112	25000	5000	30
K0830.212	22500	4500	30

Side clamps



Material:
Body ductile iron (SG iron).
Jaw hardened carbon steel.

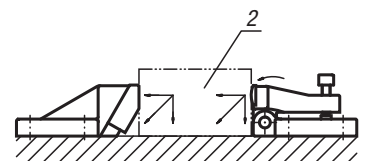
Version:
Painted black.
Jaw bright.

Sample order:
K0831.03

Note:
The workpiece is clamped between side clamps and the side stops, simultaneously producing a positive down force.
Side clamps and stops are secured with DIN 912 cylinder screws. A secure clamping is ensured when side clamps and side stops are used together.

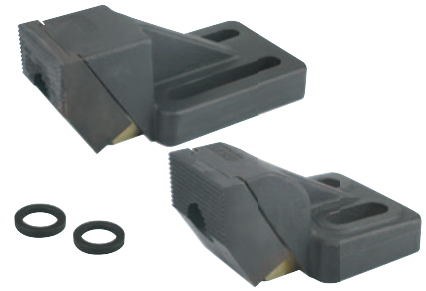
Form A: 4 M12 washers are supplied.
Form B: 2 conical seats and 2 spherical washers for M12 and M16 are supplied.

Drawing reference:
1) spherical washer set for M12 and M16
2) workpiece

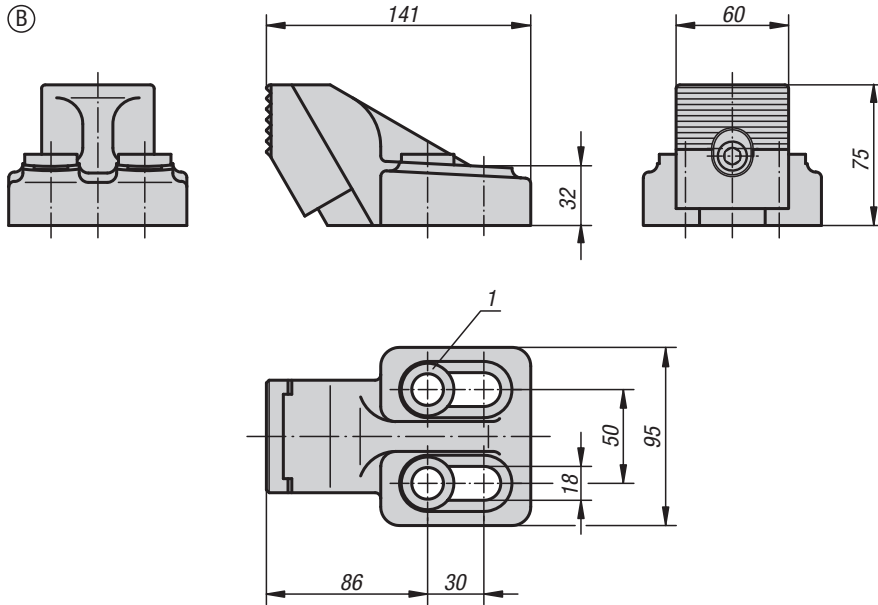


KIPP Side clamps

Order No.	Form	F kN	F1 kN	Tightening torque Nm
K0831.03	B	58	2,4	150



Ⓑ



Material:

Body ductile iron (SG iron).
Jaw hardened carbon steel.

Version:

Painted black.
Jaw bright.

Sample order:

K0832.01

Note:

The workpiece is clamped between side clamps and the side stops, simultaneously producing a positive down force.

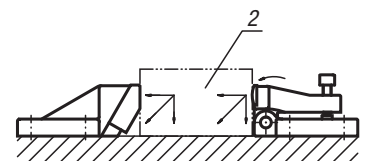
Side clamps and stops are secured with DIN 912 cylinder screws. A secure clamping is ensured when side clamps and side stops are used together.

Form A: 4 M12 washers are supplied.

Form B: 2 conical seats and 2 spherical washers for M12 and M16 are supplied.

Drawing reference:

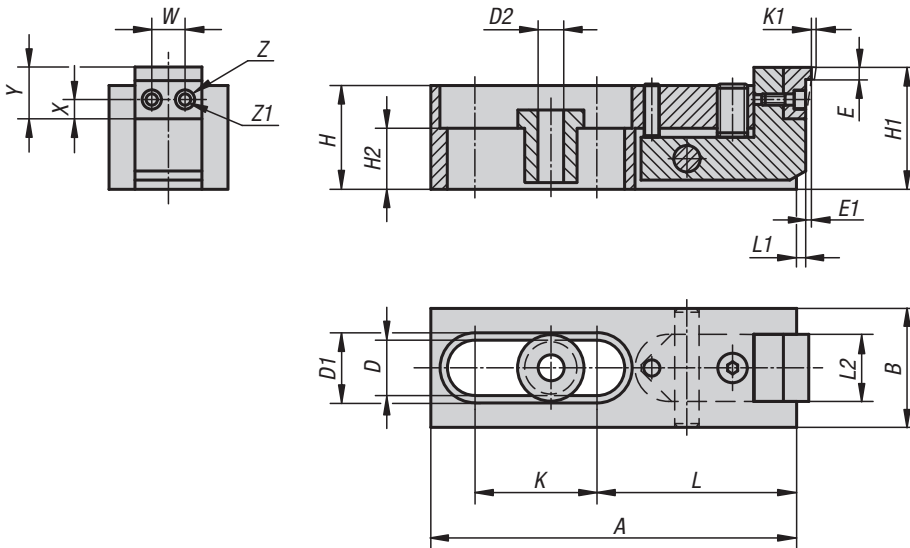
- 1) spherical washer set for M12 and M16
- 2) workpiece



KIPP Side stops

Order No.	Form
K0832.02	B

Side clamps



Material:

Body steel.
Jaw mild steel.
Centring bush with collar carbon steel.

Version:

Black oxidised.
Jaw plates case-hardened.

Sample order:

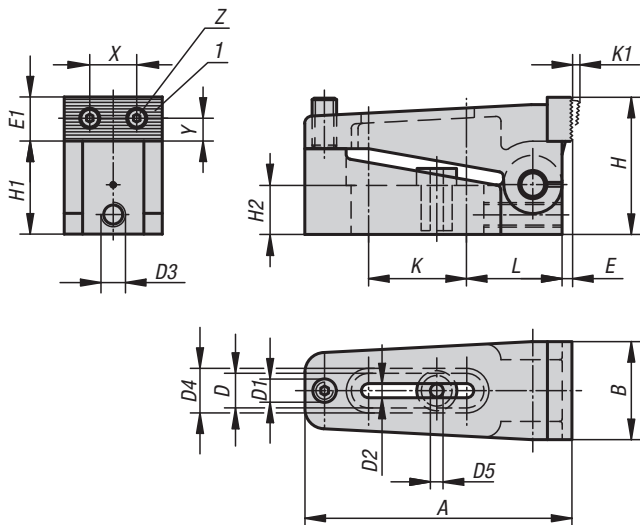
K0890.006

Note:

These flat design side clamps are ideal for machining low profile workpieces. The hardened jaws also provide positive down force.

KIPP Side clamps

Order No.	A	B	D	D1	D2	E	E1	H	H1	H2	K	K1	L	L1	L2	W	X	Y	Z	Z1	Clamping force N
K0890.006	80	24	12,2	16	6,5	2,5	0,6	21	25,5	9	25,5	2	44,5	2,5	13,5	7	4,5	11	5	3	3000
K0890.010	120	39	18,2	24	10,5	4	1	34	40	20	40,5	2,5	65,5	4	21,5	10	6	15	8	4,5	16000
K0890.016	186	60	26,2	35	17	7	1,5	51	59	22	60,5	4	105	6,5	35,5	16	9	24	14	9	31000



Material:

Body steel.
Jaw mild steel.
Centring bush carbon steel

Version:

Black oxidised.
Jaw plates case-hardened.

Sample order:

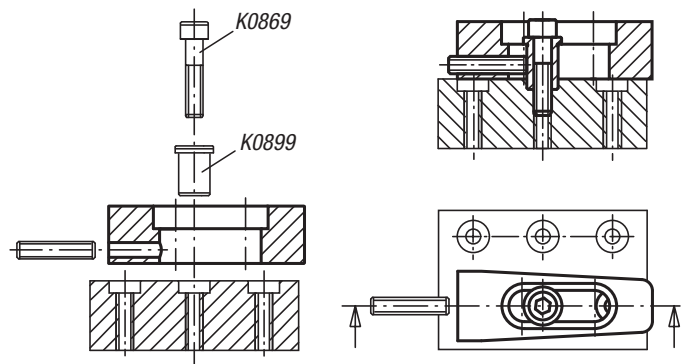
K0033.006

Note:

The jaws are reversible - smooth side for machined surfaces, serrated side for rough surfaces. A positive down force is also exerted during clamping.

Drawing reference:

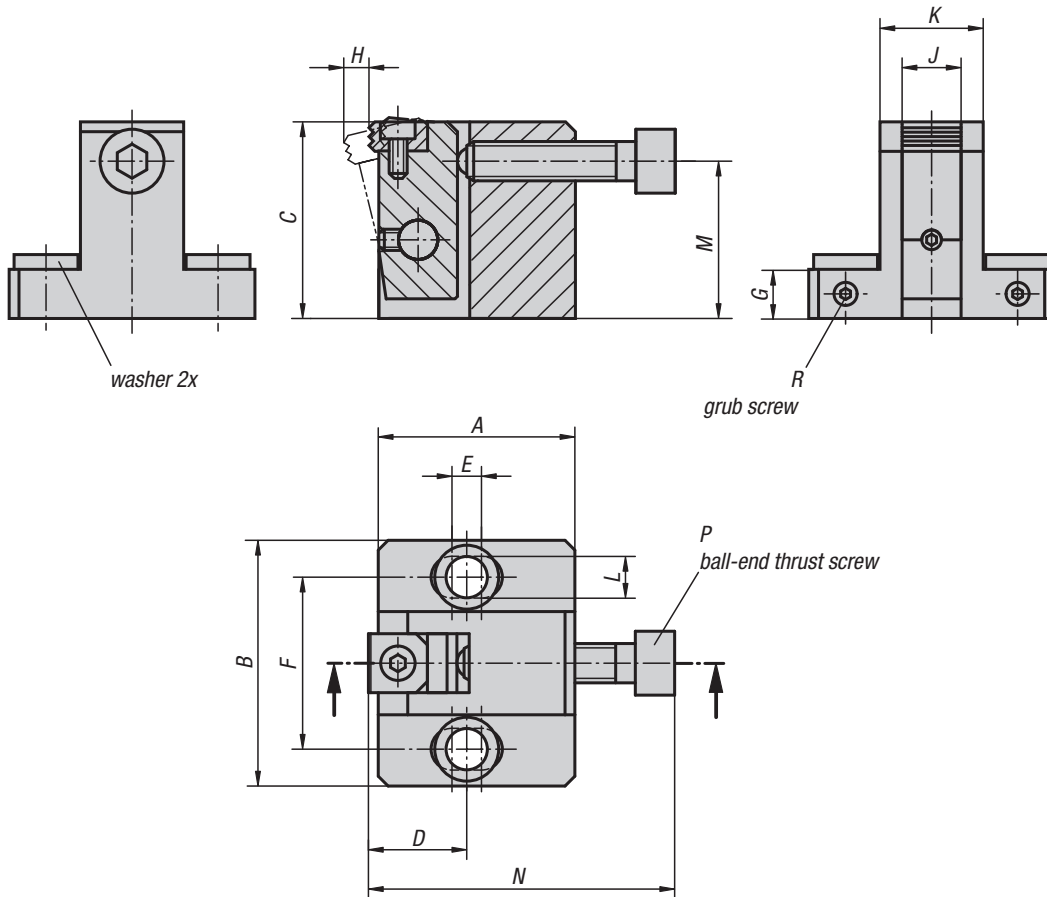
1) reversible jaw



KIPP Side clamps

Order No.	A	B	D	D1	D2	D3	D4	D5	E	E1	H	H1	H2	K	K1	L	X	Y	Z	F=retaining force N
K0033.006	73	25	12,2	M6	7	M6	16	6,5	2,5	11	35	24	12,4	25,5	2,5	27	12	4,5	M3	10000
K0033.010	110	39	18,2	M10	11	M10	24	10,5	4	18	56	38	20	40,5	4	39	20,5	8	M5	40000
K0033.016	170	58	26,2	M16	17	M10	35	17	7	27	85	60	30	60,5	7	61	32	13	M8	100000

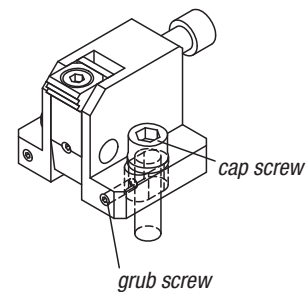
Side clamps



Material:
Housing and arm carbon steel.
Jaw tool steel.

Version:
Housing, black oxidised.
Arm and jaw tempered and black oxidised.

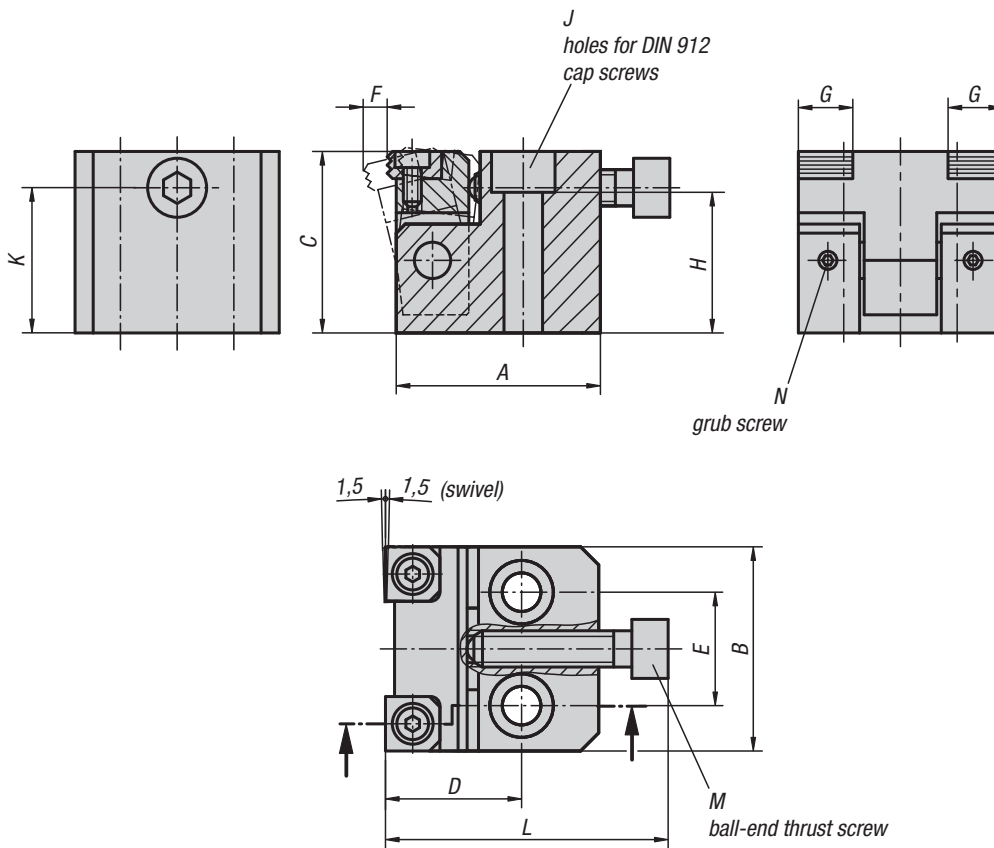
Sample order:
K0929.080400



KIPP Side clamps

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	F=retaining force N	Tightening torque Nm
K0929.080400	40	50	40	20	6	35	10	5,3	12	21	8,5	32	62,5	M8 x 35	M4x10	15000	25
K0929.100500	50	65	50	25	8	45	12	7,1	16	27	11	40	74	M10 x 40	M4x12	27000	50
K0929.120600	60	70	60	30	10	50	15	8	20	31	13	48	91	M12 x 50	M5x15	38000	90
K0929.160800	80	90	80	40	15	65	20	10,2	25	39	17	64	115	M16 x 60	M6x20	46000	130

Side clamps



Material:

Body and arm carbon steel.
Jaw tool steel.

Version:

Body black oxidised.
Arm and jaw tempered and black oxidised.

Sample order:

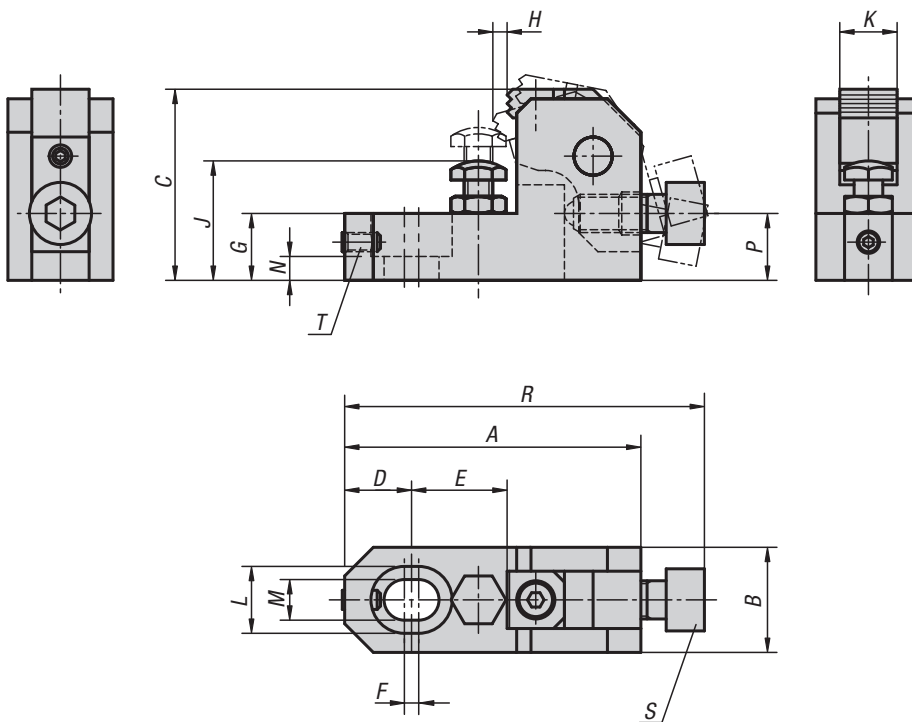
K0930.080400

KIPP Side clamps

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	F=retaining force N	Tightening torque Nm
K0930.080400	45	45	40	30	25	5,3	12	31	M8	32	62,5	M8x35	M4x4	15000	25
K0930.100500	55	55	50	40	30	7,1	16	39	M10	40	74	M10x40	M4x4	27000	50
K0930.120600	65	65	60	45	35	8	20	47	M12	48	91	M12x50	M5x5	38000	90

Side clamps

with rest pad



Material:

Housing and arm carbon steel.
Jaw tool steel.

Version:

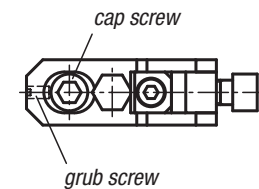
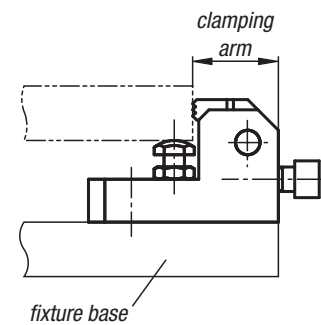
Housing tempered and black oxidised.
Arm black oxidised.
Jaw tempered and black oxidised.

Sample order:

K0931.02508

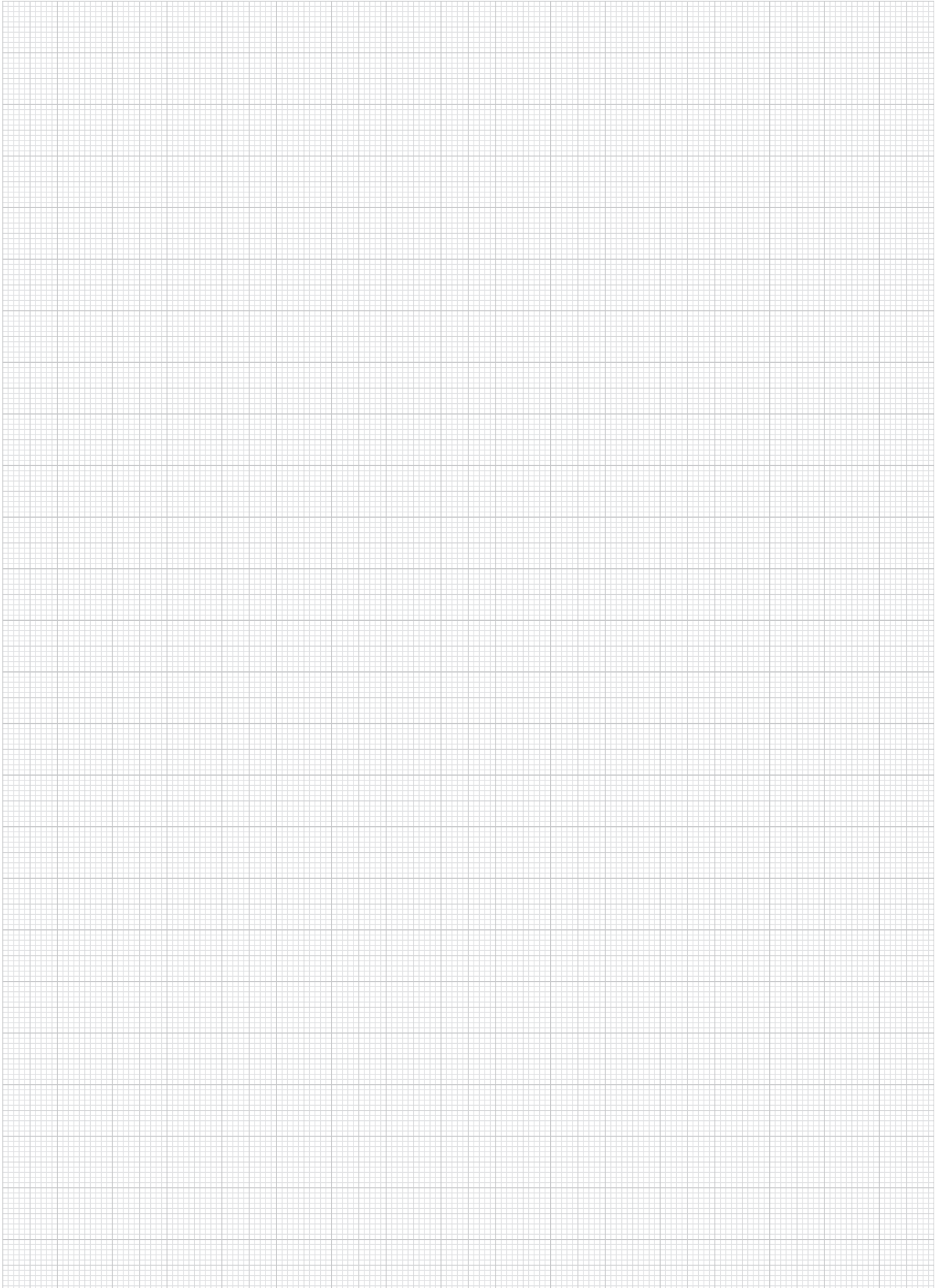
Drawing reference:

T) grub screw
S) ball pressure screw

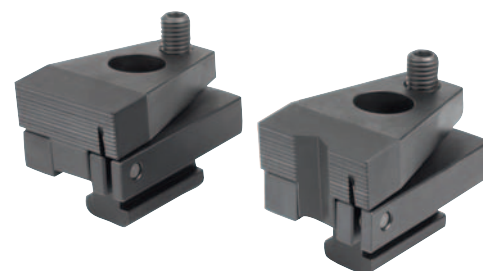


KIPP Side clamps with rest pad

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	F=retaining force N	Tightening torque Nm
K0931.02508	62	22	40	14	20	3	14	3	25-32	12	14	8,5	5	14	75,5	M8x20	M4x8	6000	15
K0931.03210	78	25	50	18	25	4	18	3,7	32-40	16	17,5	11	7	17,5	95	M10x25	M5x10	10000	30
K0931.04012	93	32	60	21	30	5	21	4,5	40-48	20	20	13	8	21	113	M12x30	M6x12	17000	65
K0931.04816	124	38	80	28	40	6	27	6	48-63	25	26	17	10	28	151	M16x40	M8x16	25000	130



Side clamps



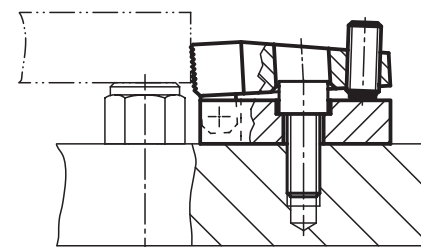
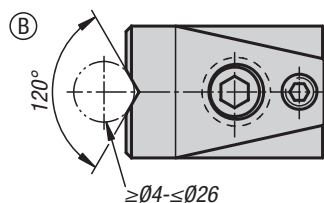
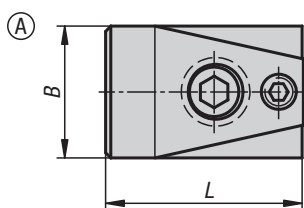
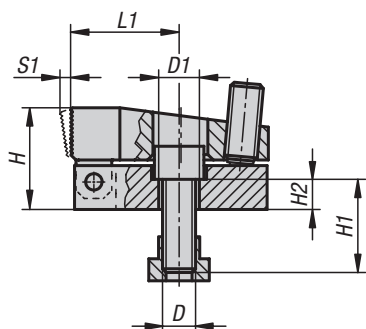
Material:
Steel.

Version:
Case-hardened and black oxidised.

Sample order:
K1386.110

Note:
Tightening the ball-end thrust screw moves the jaw plates forwards. The workpiece is pushed against the fixed stop and simultaneously forced down onto the seating face. The seating face for the workpiece can be mounted directly on the machine table.

Drawing reference:
Form A: with flat jaw
Form B: with prism jaw

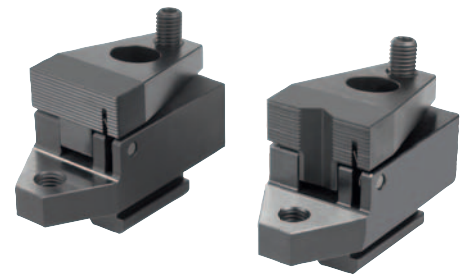


KIPP Side clamps

Order No. Form A	Order No. Form B	Slot width	B	D	D1	H	H1	H2	L	L1	S1 (travel)	Clamping force N	Tightening torque max. Nm
K1386.110	K1386.210	10	32	M8	8,4	24	20	8	52	28	3	7000	3
K1386.114	K1386.214	14	48	M12	12,5	37	30	11	72	40	4	15000	9
K1386.118	K1386.218	18	68	M16	16,5	47	35	13	86	41	7	21500	20

Side clamps

with support



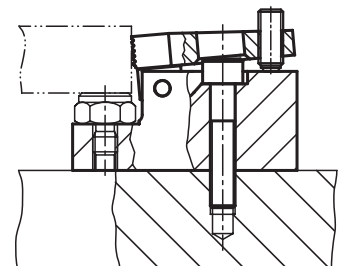
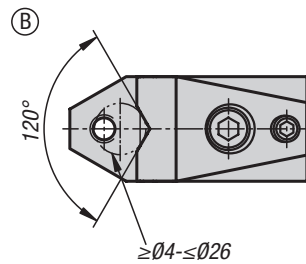
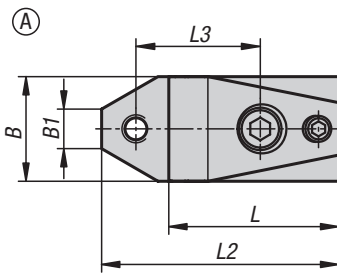
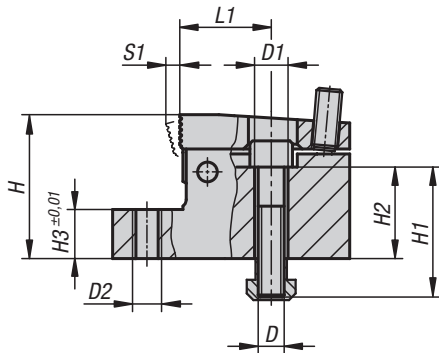
Material:
Steel.

Version:
Case-hardened and black oxidised.

Sample order:
K1387.110

Note:
Tightening the ball-end thrust screw moves the jaw plates forwards. The workpiece is pushed against the fixed stop and simultaneously forced down onto the seating face. This side clamp has a ground seating face and tapped hole for adjustable support elements.

Drawing reference:
Form A: with flat jaw
Form B: with prism jaw

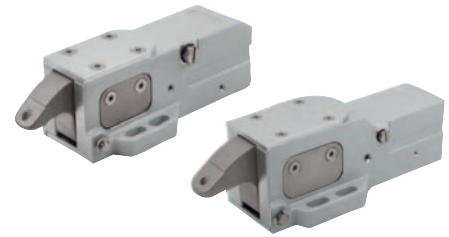


KIPP Side clamp clamp with support

Order No. Form A	Order No. Form B	Slot width	B	B1	D	D1	D2	H	H1	H2	H3	L	L1	L2	L3	S1 (travel)	Clamping force N	Tightening torque max. Nm
K1387.110	K1387.210	10	32	12,1	M8	8,4	M8	44	40	28	15	52	28	72,5	38	3	7000	3
K1387.114	K1387.214	14	48	16	M12	13	M12	53	45	27	15	72	40	100	55	4	15000	9
K1387.118	K1387.218	18	68	18,8	M16	17	M16	72	60	38	20	86	41	126	63	7	21500	20

Hold-down clamps

pneumatic



Material:

Housing aluminium.
Clamping arm steel.

Version:

Housing anodised.
Clamping arm black oxidised.

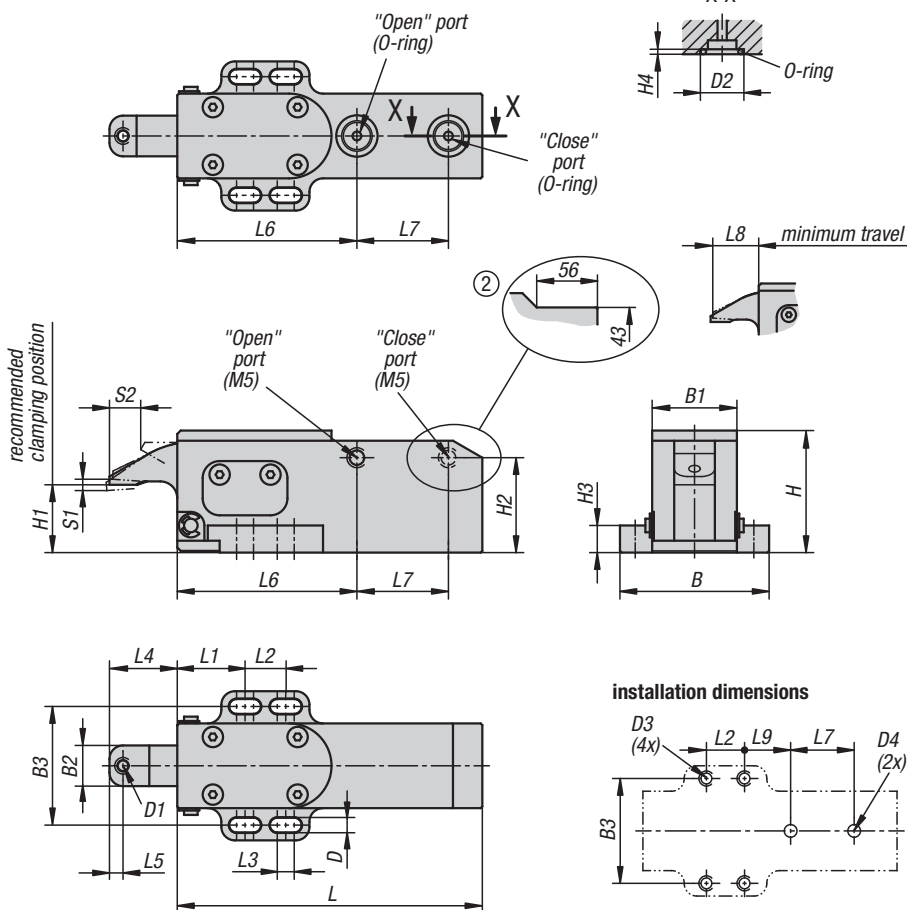
Sample order:

K1409.090

Note:

The pneumatic hold-down clamp is suitable for clamping workpieces from above. This clamp is operated with standard pressure compressed air. The large swivel angle of the clamping arm makes it easy to insert and remove the workpieces without any obstructions, guaranteeing optimum accessibility to the workpiece. The block design of the housing offers universal fastening possibilities, which means that the clamp can be optimally adapted to the workpiece being clamped. Self-aligning pads with a smooth or serrated faces can be fitted in the clamping arm, enabling rough or machined workpieces to be clamped. These pneumatic clamps can be placed in multiple positions on the workpiece and operated in any particular order. They can be controlled manually or automatically. As these clamps are pneumatically actuated, they relieve the operator, particularly where frequent clamping processes are carried out.

The clamping forces indicated are based on 0.5 MPa.



KIPP Pneumatic hold-down clamps

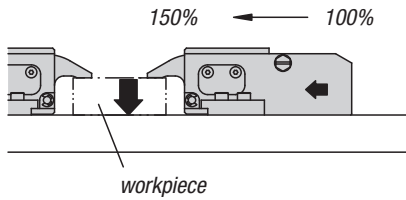
Order No.	Size	B	B1	B2	B3	D	D1	D2	D3	D4	H	H1	H2	H3	H4
K1409.090	1	44	25	12	35	4,5	M4	12,2	M4	2-4	36	20	28	8	1,9
K1409.135	2	65	40	18	53	6,5	M6	18	M6	2-6	54	30	33	12	2,4

Order No.	L	L1	L2	L3	L4	L5	L6	L7	L8	L9	S1 (travel)	S2	F=retaining force N	Operating pressure MPa
K1409.090	90	20	12	5	20	4	53	27	19	21	2	9	140	0,3 - 1,0
K1409.135	135	30	20	8	32	6	84	38	30,5	34	3	15	320	0,3 - 1,0

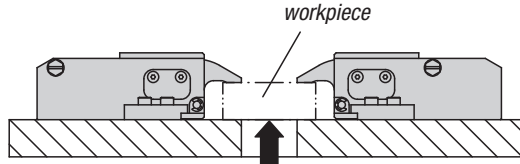
Hold-down clamps

pneumatic

The clamping mechanism increases the clamping force by 150% compared to a pneumatic cylinder of the same size.



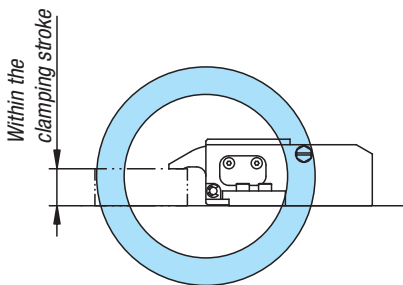
The clamping arm is operated via a wedge mechanism. If the air pressure drops due to an air leak, the wedge mechanism prevents the clamping force from dropping rapidly.



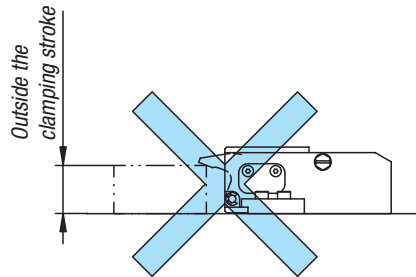
Permissible counterforce (per clamping element)

Size	Permissible clamping force (kN)
1	1
2	2,2

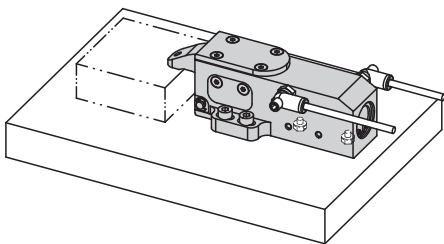
Use side clamp within the clamping travel.



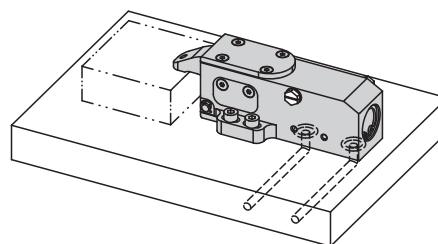
The wedge mechanism is used to clamp the workpiece securely in place.



The wedge mechanism will not function.

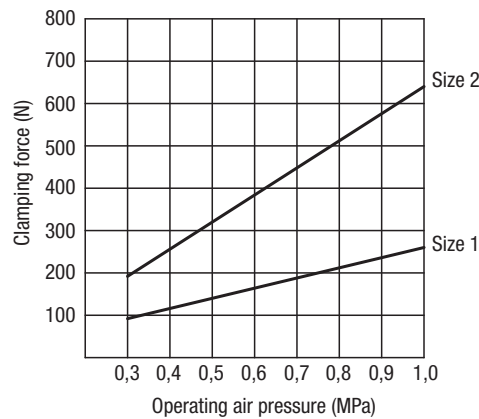


Side port as shown. Lower ports must be sealed.

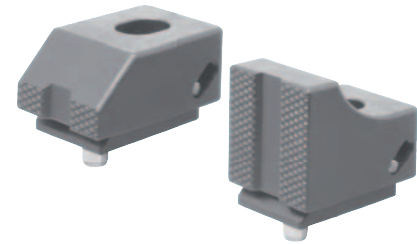
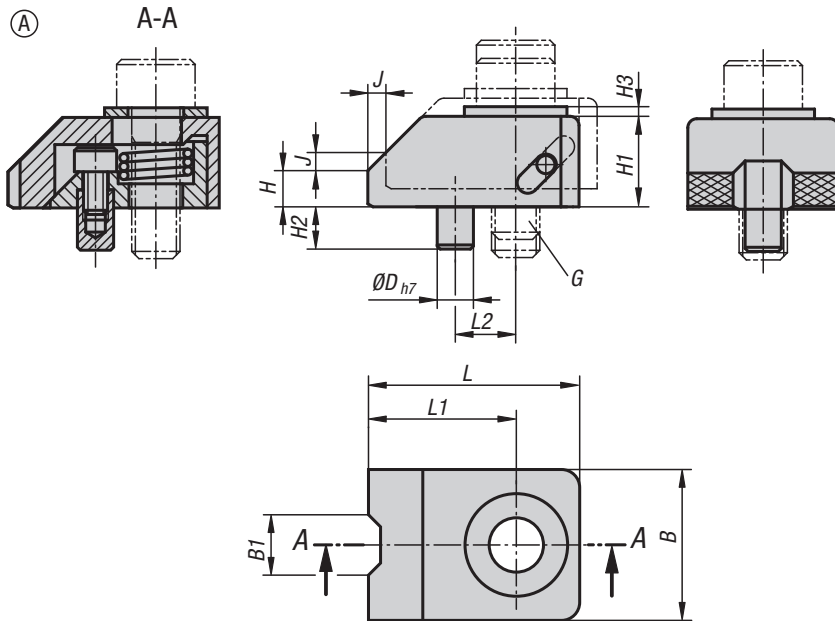


Connection from below. The side ports must be sealed.

Performance curve



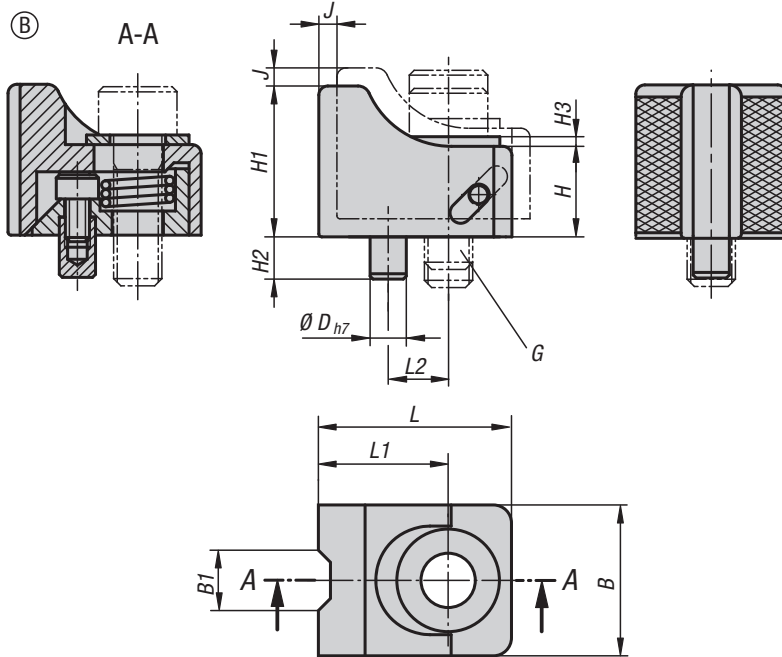
Toe clamps



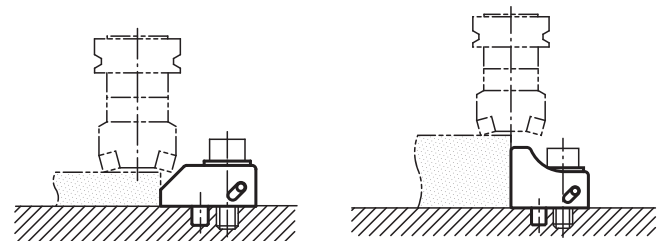
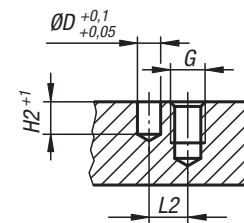
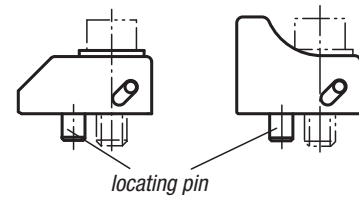
Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0932.0806



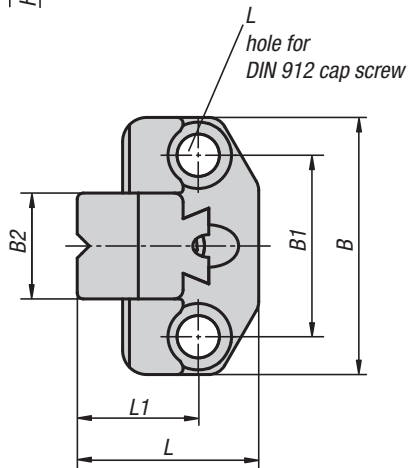
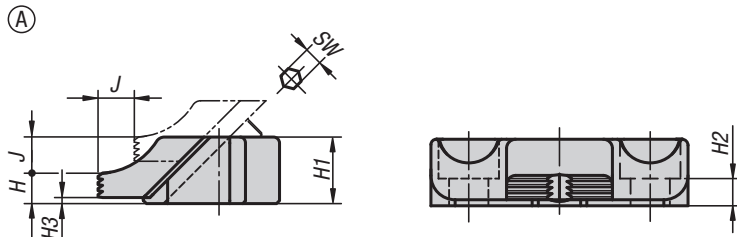
mounting instructions:



KIPP Toe clamps

Order No.	Form	B	B1	D	G	H	H1	H2	H3	J	L	L1	L2	Clamping force N	Tightening torque Nm
K0932.0806	A	25	10	6	M8	6	15	7	1,6	3	35	24,5	10	7000	25
K0932.1008	A	30	11	6	M10	8	19	7	2	4	43	29	12	8500	50
K0932.1209	A	35	12	8	M12	9	23	10	2,3	5	54	37	16	20000	90
K0932.1610	A	40	14	10	M16	10	25	10	3,2	6	65	45	20	40000	200
K0932.0825	B	25	10	6	M8	15	25	7	1,6	3	32	21,5	10	7000	25
K0932.1032	B	30	11	6	M10	19	32	7	2	4	40	26	12	8500	50
K0932.1238	B	35	12	8	M12	23	38	10	2,3	5	50	33	16	20000	90
K0932.1645	B	40	14	10	M16	25	45	10	3,2	6	60	40	20	40000	200

Toe clamps

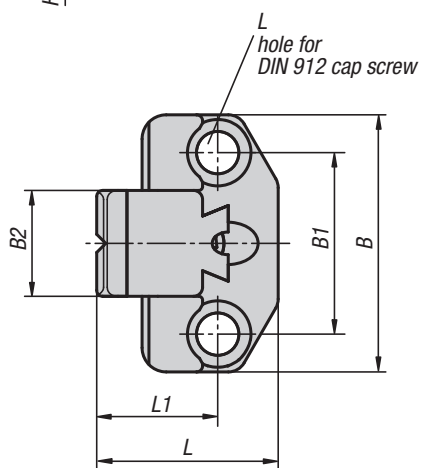
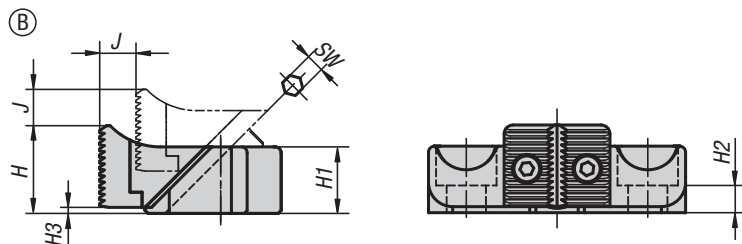


Material, version:

Body carbon steel, tempered and black oxidised.
Jaw carbon steel, black oxidised, corners tempered.

Sample order:

K0933.0808

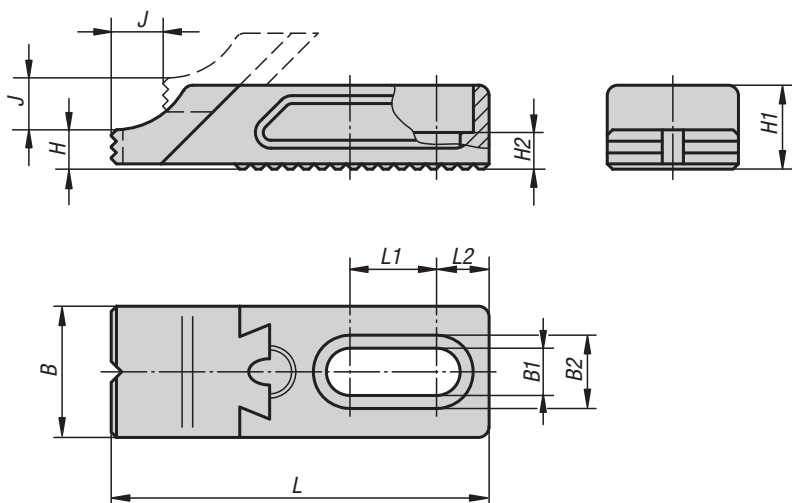


KIPP Toe clamps

Order No.	Form	B	B1	B2	G	H	H1	H2	H3	J	L	L1	SW	Clamping force N	Tightening torque Nm
K0933.0808	A	65	45	25	M8	7,5	16	7	1,5	7	39,5	25	4	4000	8
K0933.1210	A	85	60	35	M12	10	22	9	2	12	60	40	6	9000	26
K0933.1614	A	100	70	40	M16	14	30	13	2	14	77	50	8	17000	60
K0933.0820	B	65	45	25	M8	19,5	16	7	1,5	7	39,5	25	4	4000	8
K0933.1229	B	85	60	35	M12	29	22	9	2	12	60	40	6	9000	26
K0933.1638	B	100	70	40	M16	38	30	13	2	14	77	50	8	17000	60

Toe clamps

stepped



Material, version:

Body carbon steel, black oxidised.
Jaw carbon steel, tempered, black oxidised.

Sample order:

K0853.92008016

Note:

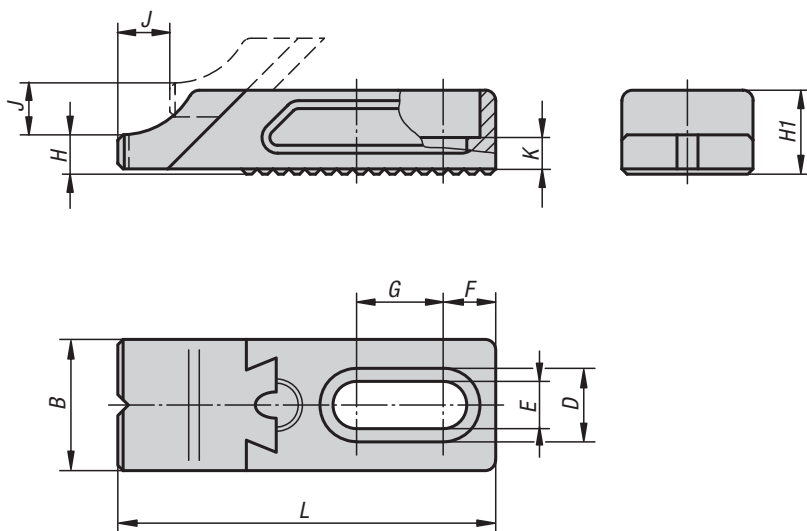
The adjustable toe clamp is used together with the rack plate CL.

KIPP Toe clamps, stepped

Order No.	B	B1	B2	H	H1	H2	J	L	L1	L2	F1 kN	M1 Nm
K0853.92008016	25	8,5	14	7,5	16	7	7	72	16,5	10	3,6	6,5
K0853.92012022	35	13	20	10	22	9	12	105	26,5	13,5	7,4	19
K0853.92016030	40	17	26	14	30	13	14	137	30	17,5	11,7	32

Toe clamps

stepped



Material, version:

Body carbon steel, black oxidised.
Jaw carbon steel, tempered.
The jaw surface is ground.

Sample order:

K0853.92108016

Note:

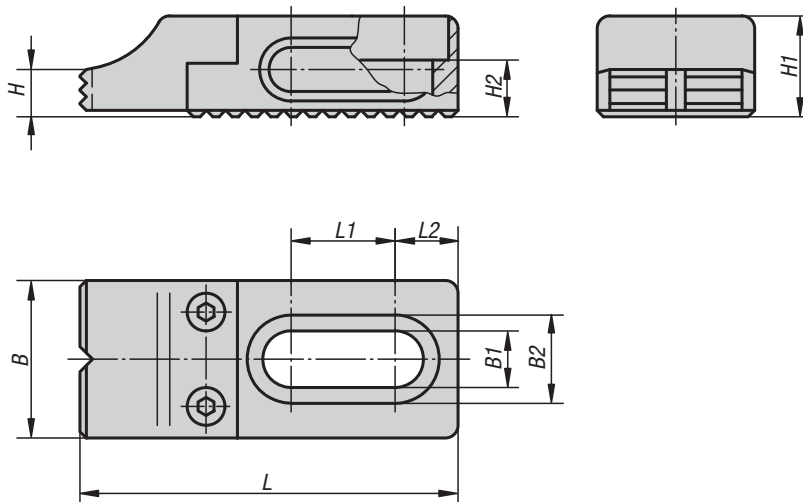
These toe clamps are used together with the rack plate CL.

KIPP Toe clamps, stepped

Order No.	B	B1	B2	H	H1	H2	J	L	L1	L2	F1 kN	M1 Nm
K0853.92108016	25	8,5	14	7,5	16	7	7	72	16,5	10	3,6	6,5
K0853.92112022	35	13	20	10	22	9	12	105	26,5	13,5	7,4	19
K0853.92116030	40	17	26	14	30	13	14	137	30	17,5	11,7	32

Toe stops

stepped



Material, version:

Body carbon steel, black oxidised.

Jaw carbon steel, tempered and black oxidised.

Sample order:

K0853.96008016

Note:

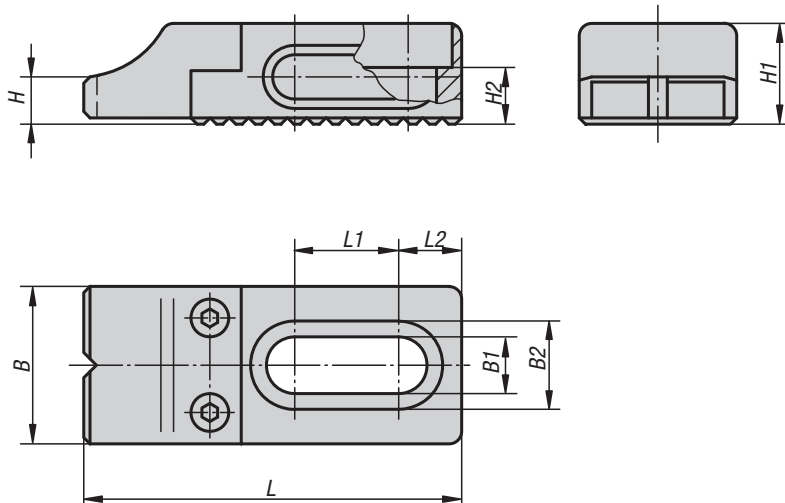
The adjustable stop is used together with the rack plate CL.

KIPP Toe stops, stepped

Order No.	B	B1	B2	H	H1	H2	L	L1	L2
K0853.96008016	25	8,5	14	7,5	16	7	60	16,5	10
K0853.96012022	35	13	20	10	22	10	90	26,5	13,5
K0853.96016030	40	17	26	14	30	13	115	30	17,5

Toe stops

stepped



Material, version:

Body carbon steel, black oxidised.

Jaw carbon steel, tempered and black oxidised.

The jaw surface is ground.

Sample order:

K0853.96108016

Note:

The adjustable stop is used together with the rack plate CL.

KIPP Toe stops, stepped

Order No.	B	B1	B2	H	H1	H2	L	L1	L2
K0853.96108016	25	8,5	14	7,5	16	7	60	16,5	10
K0853.96112022	35	13	20	10	22	10	90	26,5	13,5
K0853.96116030	40	17	26	14	30	13	115	30	17,5

Toe clamps



Material, version:

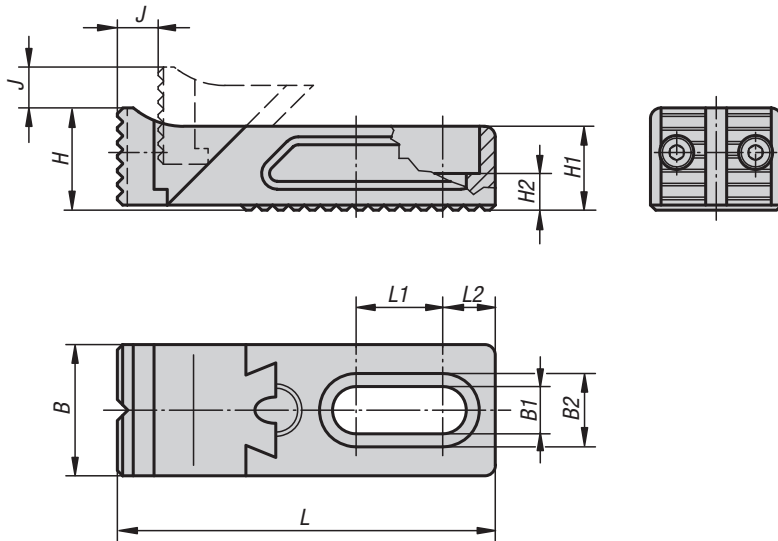
Body carbon steel, black oxidised.
Jaw carbon steel, tempered and black oxidised.

Sample order:

K0853.93008016

Note:

The adjustable toe clamp is used together with the rack plate CL.



KIPP Toe clamps

Order No.	B	B1	B2	H	H1	H2	J	L	L1	L2	F1 kN	M1 Nm
K0853.93008016	25	8,5	14	19,5	16	7	7	72	16,5	10	3,6	6,5
K0853.93012022	35	13	20	29	22	9	12	105	26,5	13,5	7,4	19
K0853.93016030	40	17	26	39	30	13	14	137	30	17,5	11,7	32

Toe clamps



Material, version:

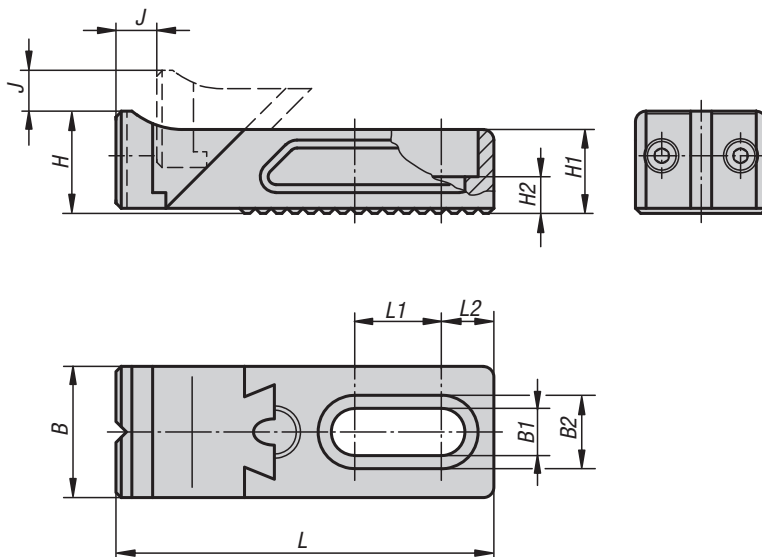
Body carbon steel, black oxidised.
Jaw carbon steel, tempered and black oxidised.
The jaw surface is ground.

Sample order:

K0853.93108016

Note:

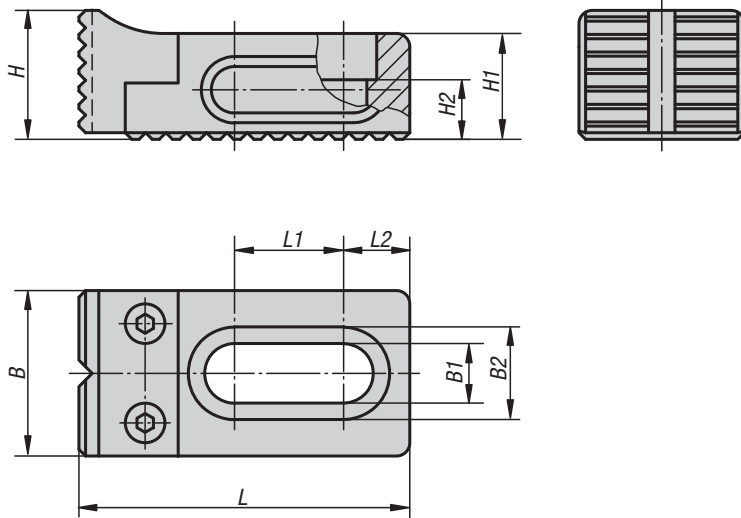
The adjustable toe clamp is used together with the rack plate CL.



KIPP Toe clamps

Order No.	B	B1	B2	H	H1	H2	J	L	L1	L2	F1 kN	M1 Nm
K0853.93108016	25	8,5	14	19,5	16	7	7	72	16,5	10	3,6	6,5
K0853.93112022	35	13	20	29	22	9	12	105	26,5	13,5	7,4	19
K0853.93116030	40	17	26	39	30	13	14	137	30	17,5	11,7	32

Toe stops



Material, version:

Body carbon steel, black oxidised.
Jaw carbon steel, tempered and black oxidised.

Sample order:

K0853.97008016

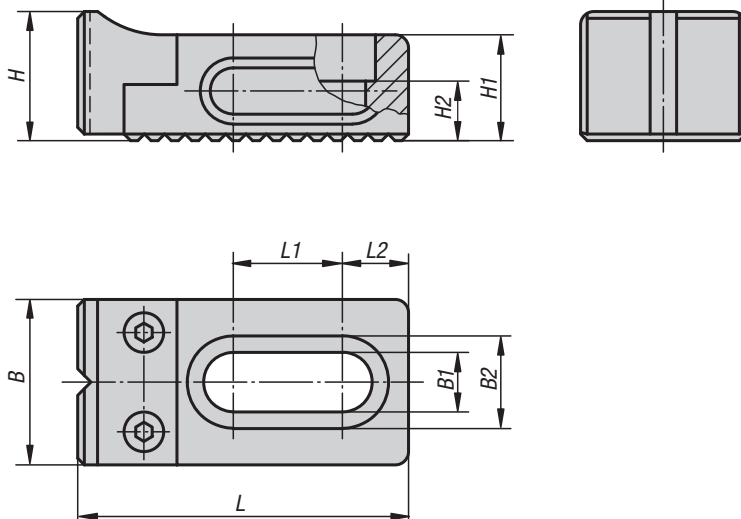
Note:

The adjustable stop is used together with the rack plate CL.

KIPP Toe stops

Order No.	B	B1	B2	H	H1	H2	L	L1	L2
K0853.97008016	25	8,5	14	19,5	16	7	50	16,5	10
K0853.97012022	35	13	20	29	22	10	75	20	13,5
K0853.97016030	40	17	26	39	30	13	95	30	17,5

Toe stops



Material, version:

Body carbon steel, black oxidised.
Jaw carbon steel, tempered and black oxidised.
The jaw surface is ground.

Sample order:

K0853.97108016

Note:

The adjustable stop is used together with the rack plate CL.

KIPP Toe stops

Order No.	B	B1	B2	H	H1	H2	L	L1	L2
K0853.97108016	25	8,5	14	19,5	16	7	50	16,5	10
K0853.97112022	35	13	20	29	22	10	75	26,5	13,5
K0853.97116030	40	17	26	39	30	13	95	30	17,5

Rack plates

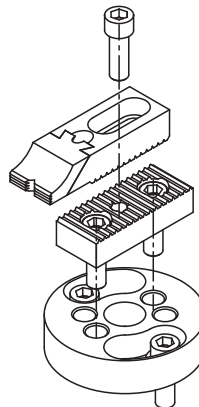
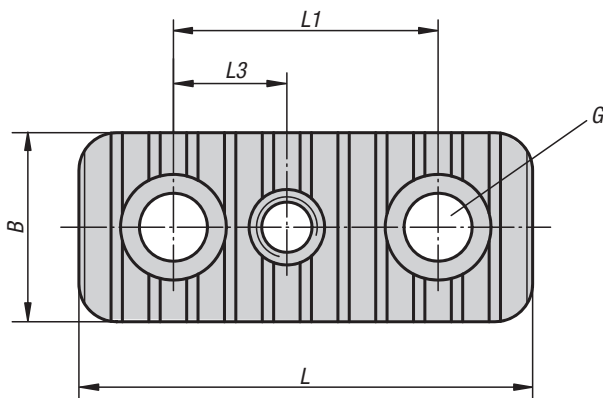
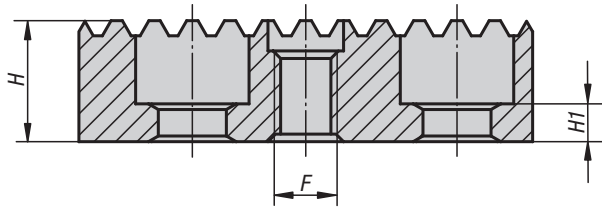


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0853.94008116

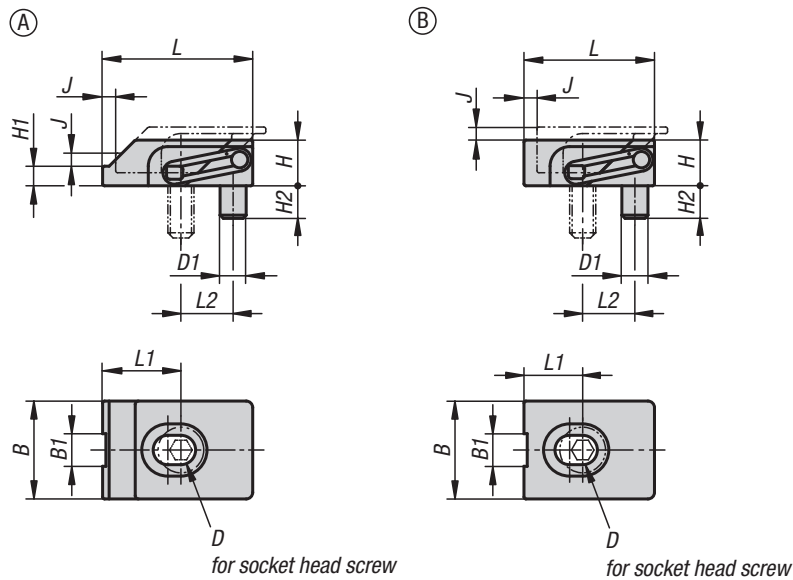
Note:
Rack plates are used to position stepped and standard toe clamps.
The holes (G) for DIN 912 socket head screws is used to fasten the rack plate to suitable base elements. The tapped hole (F) is used to secure the toe clamps.



KIPP Rack plates

Order No.	B	F	G hole for DIN 912 cap screw	H	H1	L	L1	L3
K0853.94008116	25	M8	M8	16	7	50	25	12,5
K0853.94008120	25	M8	M8	20	9	50	25	12,5
K0853.94008125	25	M8	M8	25	13	50	25	12,5
K0853.94008132	25	M8	M8	32	20	50	25	12,5
K0853.94008140	25	M8	M8	40	28	50	25	12,5
K0853.94012020	35	M12	M12	20	5	85	50	20
K0853.94012025	35	M12	M12	25	12	85	50	20
K0853.94012032	35	M12	M12	32	12	85	50	20
K0853.94012040	35	M12	M12	40	12	85	50	20
K0853.94012050	35	M12	M12	50	12	85	50	20
K0853.94016025	40	M16	M16	25	6	90	50	25
K0853.94016032	40	M16	M16	32	13	90	50	25
K0853.94016040	40	M16	M16	40	15	90	50	25
K0853.94016050	40	M16	M16	50	15	90	50	25
K0853.94016063	40	M16	M16	63	15	90	50	25

Flat clamps



Material:
Carbon steel.

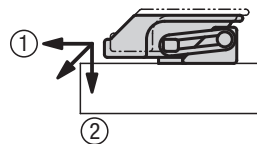
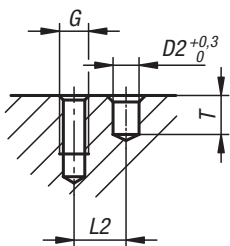
Version:
Hardened (33–39 HRC) and black oxidised.

Sample order:
K1168.204

Note:
Particularly low workpieces can be clamped using these flat clamps.
Clamping element with pull-down effect.
Clamping element and fixed block in one compact unit.

Drawing reference:
Dimension L1 refers to clamped state.

installation instructions



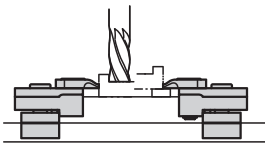
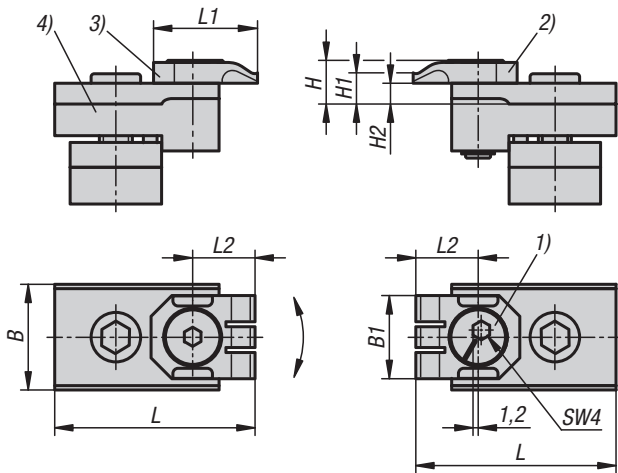
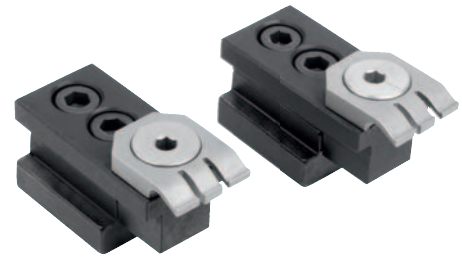
- (Jaws exert positive down force)
- ① Horizontal thrust against workpiece
 - ② Vertical thrust prevents the workpiece lifting

KIPP Flat clamps

Order No.	Form	B	B1	D1	D2	G	H	H1	H2	J	L	L1	L2	T	Clamping force max. kN	Tightening torque max. Nm
K1168.104	A	15	5	4	4	M4	7	3	5	2	23	12	8	6	2	2,7
K1168.105	A	19	7	5	5	M5	9	4	6	2,5	28	14	10	7	3	5,4
K1168.204	B	15	5	4	4	M4	7	-	5	2	20	9	8	6	2,5	2,7
K1168.205	B	19	7	5	5	M5	9	-	6	2,5	25	11	10	7	3,5	5,4

Flat clamp, steel

for T-slot



Workpiece clamped directly on the table top or supported on rests from below (e.g for drilling though).

Material:

Steel body.
Clamping element and stop made from spring steel.

Version:

Base element tempered.

Sample order:

K1540.10

Note for ordering:

The order number includes one pair, made up of a clamping element and a stop.

Note:

By turning the cam screw on the clamping element the workpiece is forced downwards (positive down force). The clamping element also forces the workpiece against the stop, thereby providing a flat parallel seating.

The stop side provides a reference that makes precise replications possible.

Cam hub: 1.2 mm.

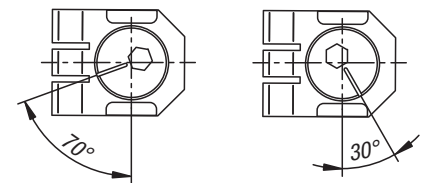
Application:

Suitable for clamping multiple and individual parts on fixtures and T-slot tables.

Drawing reference:

- 1) Cam screw
- 2) Clamping element
- 3) Stop
- 4) Body

Using the cam

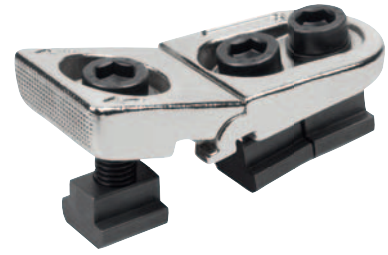


Quick clamp 1/4 rotation

KIPP Flat clamp, steel, for T-slot

Order No.	B	B1	H	H1	H2	L	L1	L2	SW	Slot width	F kN	Tightening torque Nm
K1540.10	18	20	10,5	7,5	5	46	25	15	4	10	4	9
K1540.12	18	20	10,5	7,5	5	48	25	15	4	12	4	9
K1540.14	22	20	10,5	7,5	5	52	25	15	4	14	4	9
K1540.16	25	20	10,5	7,5	5	48	25	15	4	16	4	9
K1540.18	25	20	10,5	7,5	5	48	25	15	4	18	4	9

T-slot clamps



Material:

Clamping element (front) steel 1.7225.
Retaining element (rear) steel 1.0503.
Cap screws and slot keys grade 8.8 steel.

Version:

Body parts hardened and nickel-plated.
Fasteners black oxidised.

Sample order:

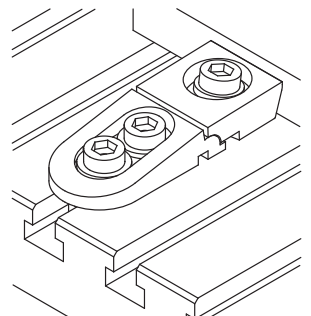
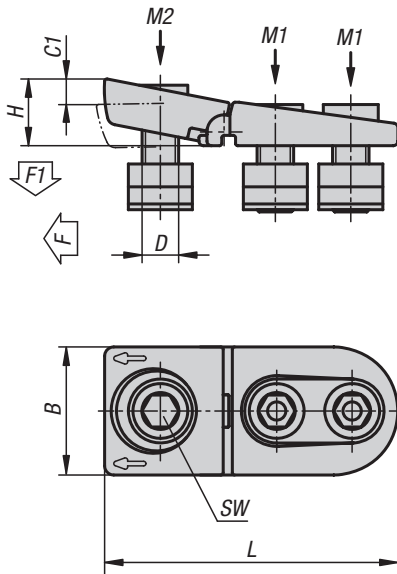
K1413.1214

Note:

Particularly low workpieces can be clamped using the T-slot clamps. The positive down force helps to hold the workpiece down on the machine table.

Application:

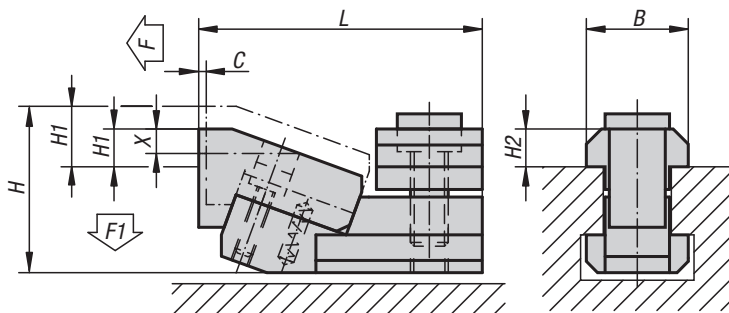
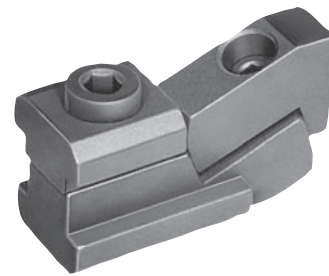
1. Slide the clamp in the machine table T-slot up to the workpiece.
2. Tighten the fastening screws with the appropriate torque.
3. Tighten the clamping screw to clamp the workpiece in place.



KIPP T-slot clamps

Order No.	Slot width	B	C1	D	H	L	SW	F kN	F1 kN	Tightening torque M1 Nm	Tightening torque M2 Nm
K1413.1214	14	44	8	M12	25	112	10	15	7,5	65	52
K1413.1618	18	56	10	M16	30	132	14	25	12,5	150	120
K1413.2022	22	62	11	M20	35	155	17	36	18	300	240

T-slot clamps

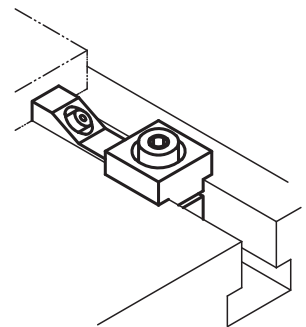


Material:
Steel.

Version:
Hardened, black oxidised.

Sample order:
K1230.12

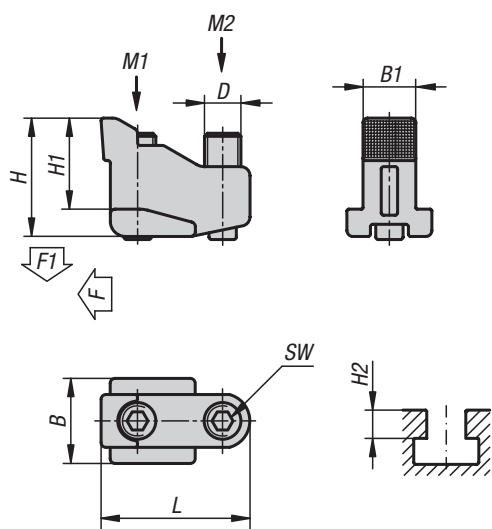
Note:
These T-slot clamps are especially useful for clamping low profile workpieces. The wedge operated jaws also provide positive down force. Dimensions "H1" and "X" depend on the max. T-slot depth acc. to DIN 650. To achieve the minimal clamping height by the minimal slot depth, the jaw can be ground down by the dimension "X".



KIPP T-slot clamps

Order No.	Slot width	C	L	B	H	H1 min.	H1 max.	X	H2	F kN	F1 kN
K1230.12	12	1,8	52	18	31	3,5	8,5	5	7	5	0,6
K1230.14	14	1,8	55	22	34	2,5	7,5	5	8	5,5	0,7
K1230.16	16	2,5	68	25	41	4	11	6	9	8	0,9
K1230.18	18	2,5	71	28	43	2	9	6	10	9	1
K1230.22	22	3	89	35	53	5	14	9	14	16	1,9

T-slot clamps



Material:

Body steel 1.7225.
Screws steel grade 8.8.

Version:

Body hardened and nickel-plated.
Screws black oxidised.

Sample order:

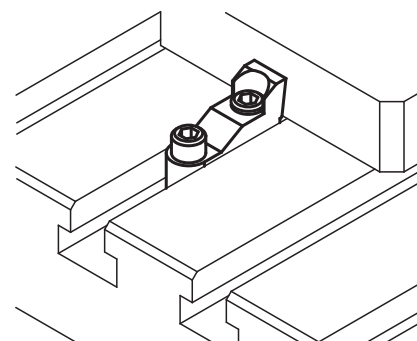
K1412.1014

Note:

Particularly low workpieces can be clamped using the T-slot clamps. The positive down force pushes the workpiece down on the machine table.

Application:

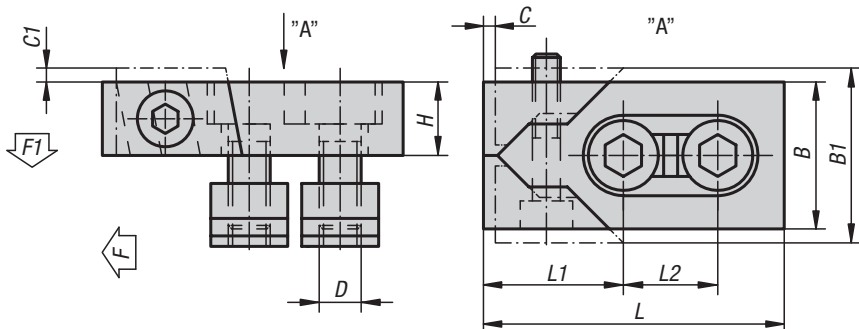
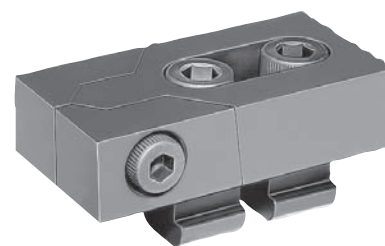
1. Slide the clamp in the machine table T-slot up to the workpiece.
2. Tighten the fastening screws with the appropriate torque.
3. Tighten the clamping screw to clamp the workpiece in place.



KIPP T-slot clamp

Order No.	Slot width	B	D	H	H1	H2	L	B1	SW	F kN	F1 kN	Tightening torque M1 Nm	Tightening torque M2 Nm
K1412.1214	14	22	M10	31	24	14-19	40	13,6	5	7	3,5	18	9
K1412.1618	18	28	M12	39	30	18-24	49	17,4	6	10	5	32	15
K1412.2022	22	35	M16	50	37	22-30	63	21,5	8	-	8	75	35

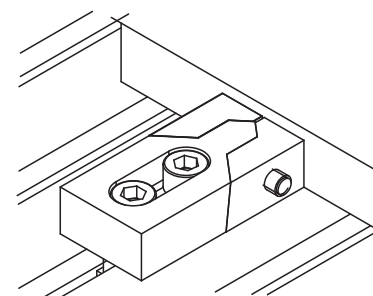
Low-profile clamps



Material:
Steel.

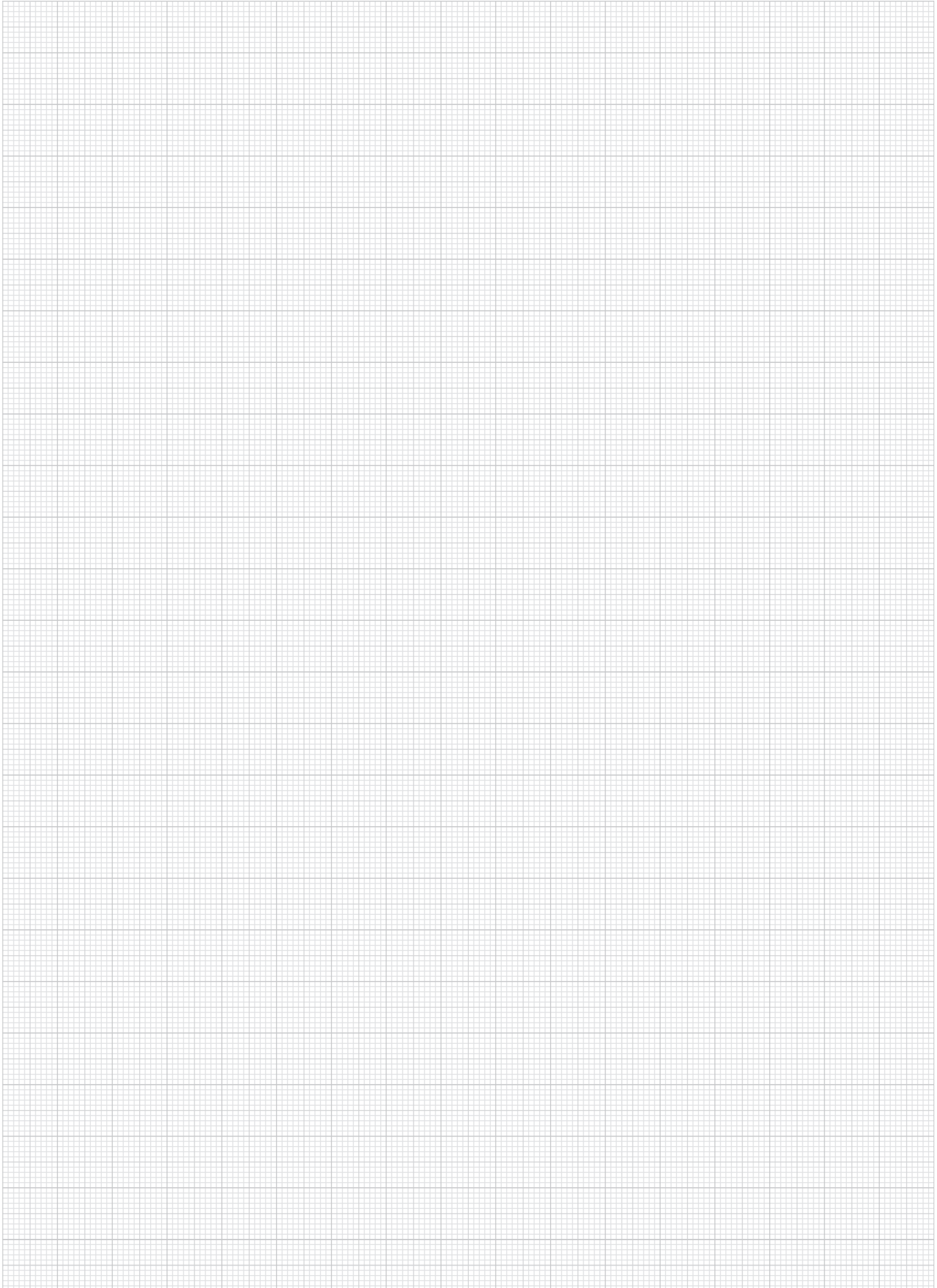
Version:
Hardened, black oxidised.

Note:
These handy low-profile clamp jaws are ideal for machining most workpiece sizes. The hardened wedge operated jaws also provide positive down force.



KIPP Low-profile clamps

Order No.	Slot width	L	L1	L2	B	B1	H	C	C1	D	F kN	F1 kN	Tightening torque max. Nm
K1229.12	12	80	39	26	40	47	20	3	2,5	M10	16	0,6	15
K1229.14	14	80	39	26	40	47	20	3	2,5	M12	22	0,9	18
K1229.16	16	80	39	26	40	47	20	3	3	M12	22	0,9	18
K1229.161	16	100	46	34	50	59	25	4	2,5	M14	32	1,2	25
K1229.18	18	100	46	34	50	60	25	4	3	M16	36	1,4	35
K1229.20	20	100	46	34	50	60	25	4	3	M16	36	1,4	35
K1229.22	22	140	65	50	78	95	30	5	4	M20	36	1,4	45



Wedge clamps

jaw face smooth or serrated



Material:

Wedge and jaw segments carbon steel.

Version:

Wedge and jaw segments hardened, black.

Sample order:

K0039.2208

Note:

The functioning principle make the wedge clamps ideal for series clamping. The wedge form can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the socket screw moves the wedge down and the jaws out pressing the workpieces against the fixtures fixed stops.

The wedge has a slightly elongated hole allowing for movement to compensate for tolerances.

Spread width:

M8 = ±0.5 mm

M10 = ±1.0 mm

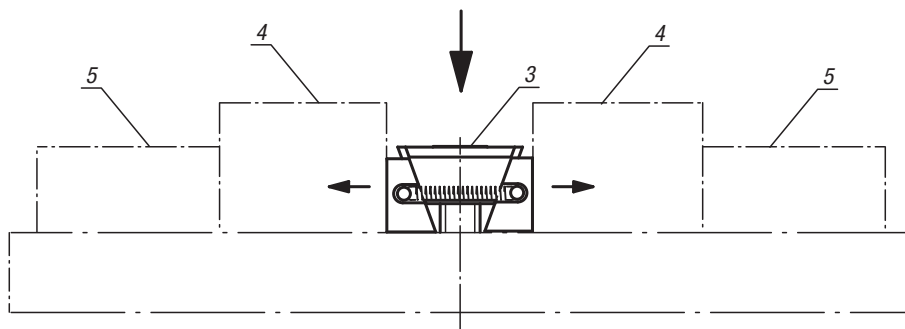
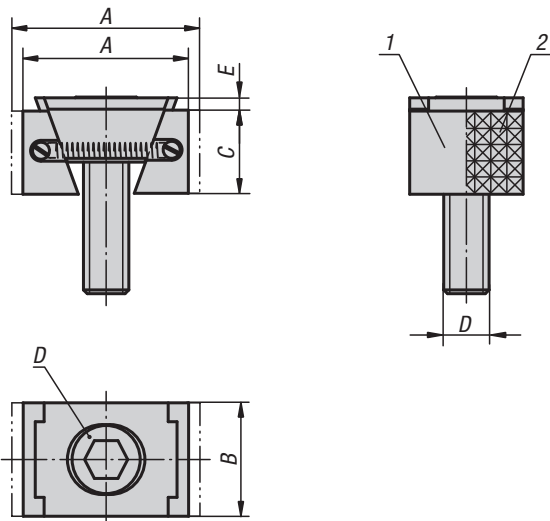
M12 = ±1.0 mm

M16 = ±1.5 mm

Drawing reference:

D) DIN 6912 cap screw

- 1) Jaw face smooth
- 2) Jaw face serrated
- 3) Wedge clamps
- 4) Workpiece
- 5) Fixed stop



KIPP Wedge clamps, narrow version

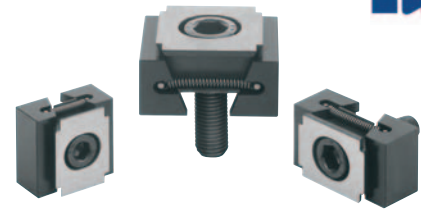
Order No. smooth	Order No. serrated	A min.	A max.	B	C	D	E	Clamping force max. kN	Tightening torque max. Nm
K0039.1108	K0039.2108	30,5	33,5	24	15	M8X25	2	15	25
K0039.1110	K0039.2110	32	37	28	19	M10X25	3,5	20	49
K0039.1112	K0039.2112	44	49,5	30	22	M12X40	3,5	30	85
K0039.1116	K0039.2116	55	62	40	29	M16X60	4	50	210

KIPP Wedge clamps, wide version

Order No. smooth	Order No. serrated	A min.	A max.	B	C	D	E	Clamping force max. kN	Tightening torque max. Nm
K0039.1208	K0039.2208	30,5	33,5	30	15	M8X25	2	15	25
K0039.1210	K0039.2210	32	37	38	19	M10X25	3,5	20	49
K0039.1212	K0039.2212	44	49,5	48	22	M12X40	3,5	30	85
K0039.1216	K0039.2216	55	62	48	29	M16X60	4	50	210

Wedge clamps

machinable



Material:

Wedge and jaw segments carbon steel.

Version:

Wedge and jaw segments hardened, black.

Sample order:

K0649.3110

Note:

These wedge clamps have extra long jaws. This extra material allows the jaws to be machined to suit the form of the workpiece.

The functioning principle makes the wedge clamps ideal for series clamping. The wedge form can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the socket screw moves the wedge down and the jaws out, pressing the workpieces against the fixtures fixed stops.

The wedge has a slightly elongated hole allowing for movement to compensate for tolerances.

Spread width:

M8 = ±0.5 mm

M10 = ±1.0 mm

M12 = ±1.0 mm

M16 = ±1.5 mm

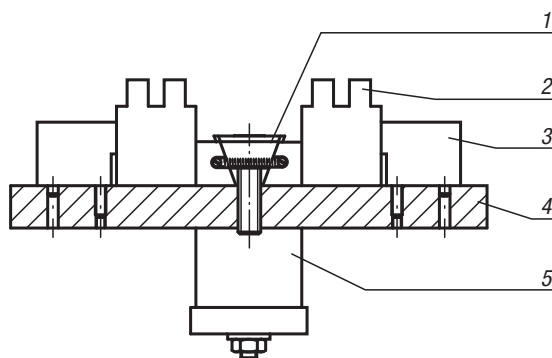
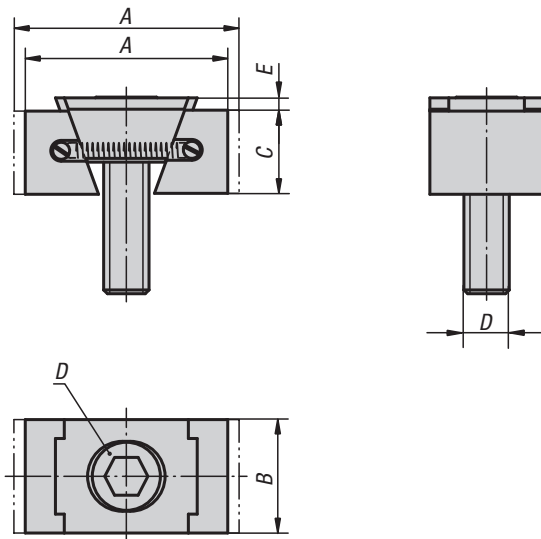
Attention:

These wedge clamps have a machining allowance per jaw of 3 mm for version M8 and 5 mm for versions M10, M12 and M16.

Drawing reference:

D) DIN 6912 cap screw

- 1) wedge clamps
- 2) workpiece
- 3) fixed stop
- 4) base plate
- 5) hydraulic/pneumatic cylinder



KIPP Wedge clamps machinable

Order No.	Version	A min.	A max.	B	C	D	E	Clamping force max. kN	Tightening torque max. Nm
K0649.3108	narrow	36,5	39,5	24	15	M8X25	2	11	19
K0649.3110	narrow	42	47	28	19	M10X25	3,5	15	37
K0649.3112	narrow	54	59,5	30	22	M12X40	3,5	23	65
K0649.3116	narrow	65	72	40	29	M16X60	4	38	160
K0649.3208	wide	36,5	39,5	30	15	M8X25	2	11	19
K0649.3210	wide	42	47	38	19	M10X25	3,5	15	37
K0649.3212	wide	54	59,5	48	22	M12X40	3,5	23	65
K0649.3216	wide	65	72	48	29	M16X60	4	38	160

Wedge clamps

jaw faces serrated



Material:

Body and clamping segments tool steel.

Version:

Body hardened.

Jaw segments hardened (49-51 HRC) black oxidised.

Wedge faces ground.

Sample order:

K0040.1618

Note:

The compact design makes these wedge clamps ideal for horizontal and vertical series clamping. The hardened and ground wedge faces can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the DIN 912 socket screw moves the wedge down and the jaws out pressing the workpieces against the fixtures fixed stops.

The jaws of version K0040.08 and K0040.0810 are not serrated.

The wedge has a slightly elongated hole allowing for movement.

Spread width:

K0040.08 = ±0.5 mm

K0040.12 = ±1.0 mm

K0040.16 = ±1.5 mm.

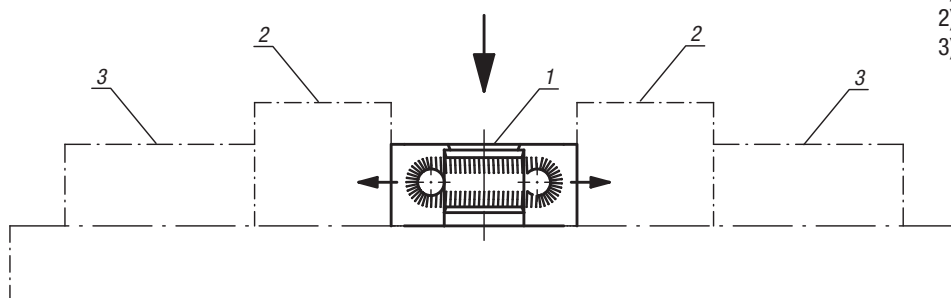
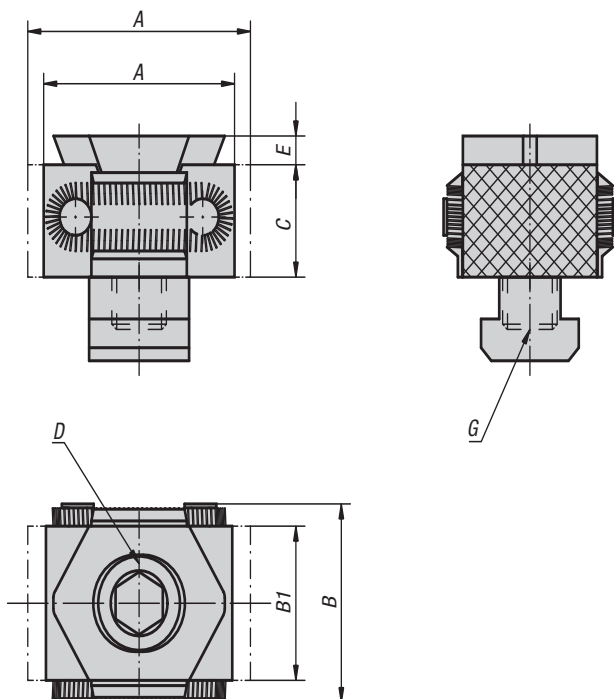
Drawing reference:

D) DIN 912 cap screw

1) Wedge clamps

2) Workpiece

3) Fixed stop

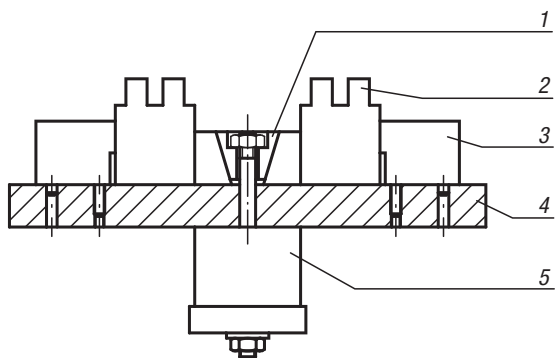
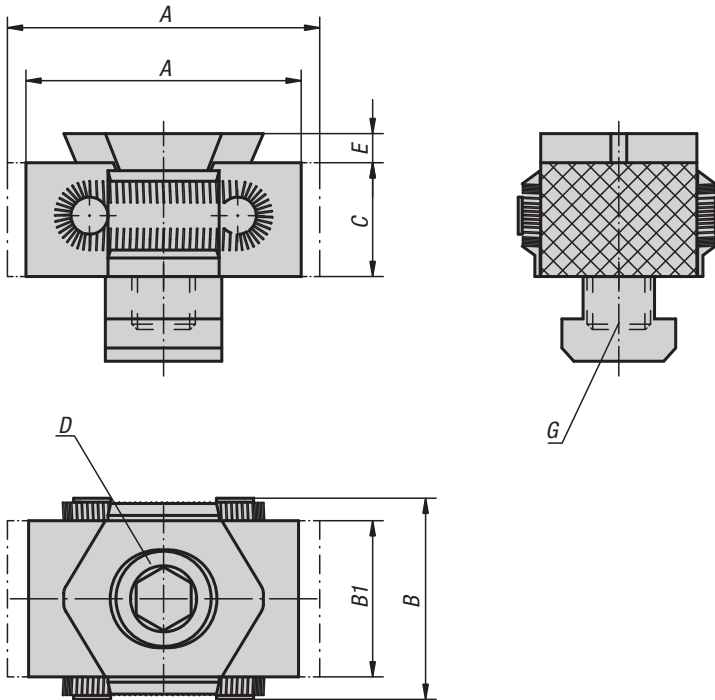


KIPP Wedge clamps, jaw faces serrated

Order No.	Version 1	A min.	A max.	B	B1	C	D	E	Version 2	G	Clamping force max. kN	Tightening torque max. Nm
K0040.08	smooth	27	31	29	21	15	M8X25	2,5	for tapped hole	M8	15	25
K0040.0810	smooth	27	31	29	21	15	M8X25	2,5	for t-slot	10	15	25
K0040.12	serrated	42	49	41	30	22	M12X40	4	for tapped hole	M12	30	85
K0040.1214	serrated	42	49	41	30	22	M12X30	4	for t-slot	14	30	85
K0040.16	serrated	57	66	56	42	29	M16X60	5	for tapped hole	M16	50	210
K0040.1618	serrated	57	66	56	42	29	M16X50	5	for t-slot	18	50	210

Wedge clamps

machinable



Material:

Body tool steel.
Jaw segments tool steel (30 HRC).

Version:

Body hardened.
Jaw segments black oxidised.
Wedge faces ground.

Sample order:

K0041.12

Note:

These wedge clamps have a machining allowance per jaw of 3 mm for version K0041.08 and 5 mm for versions K0041.12 and K0041.16. This extra material allows the jaws to be machined to suit the form of the workpiece.

The jaws version K0041.08 and K0041.0810 are not serrated.

Spread width:

K0041.08 = ±0.5 mm
K0041.12 = ±1.0 mm
K0041.16 = ±1.5 mm

On request:

Pre-formed jaw segments or other hardness grades.

Drawing reference:

D) DIN 912 cap screw

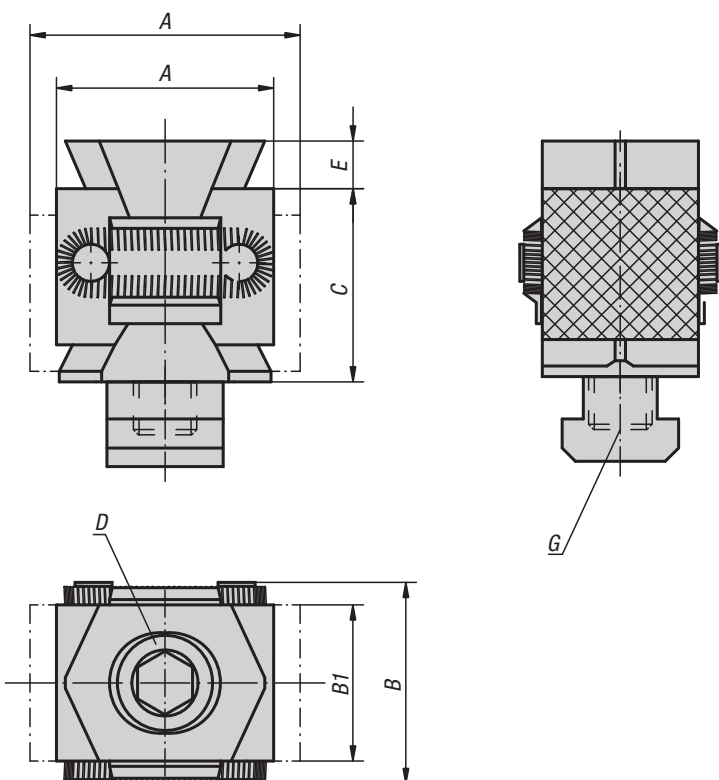
- 1) wedge clamps
- 2) workpiece
- 3) fixed stop
- 4) base plate
- 5) hydraulic/pneumatic cylinder

KIPP Wedge clamps machinable

Order No.	A min.	A max.	B	B1	C	D	E	Version 2	G	Clamping force max. kN	Tightening torque max. Nm
K0041.08	33	37	29	21	15	M8X25	2,5	for tapped hole	M8	15	25
K0041.0810	33	37	29	21	15	M8X25	2,5	for t-slot	10	15	25
K0041.12	52	59	41	30	22	M12X40	4	for tapped hole	M12	30	85
K0041.1214	52	59	41	30	22	M12X30	4	for t-slot	14	30	85
K0041.16	67	76	56	42	29	M16X60	5	for tapped hole	M16	50	210
K0041.1618	67	76	56	42	29	M16X50	5	for t-slot	18	50	210

Wedge clamps double

jaw faces serrated



Material:

Body and jaw segments tool steel.

Version:

Body hardened.

Jaw segments hardened (49-51 HRC) and black oxidised.

Wedge faces ground.

Sample order:

K0042.1214

Note:

The compact design makes these double wedge clamps ideal for horizontal and vertical series clamping. The hardened and ground wedge faces can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the DIN 912 socket screw pulls the wedges together and the jaws out pressing the workpieces against the fixtures fixed stops.

The double wedges create a positive down force.

Spread width:

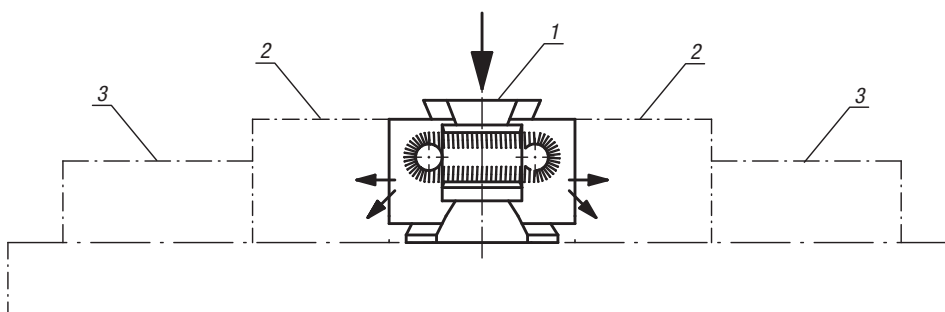
K0042.12 = ±1.0 mm

K0042.16 = ±1.5 mm

Drawing reference:

D) DIN 912 cap screw

- 1) Wedge clamps
- 2) Workpiece
- 3) Fixed stop



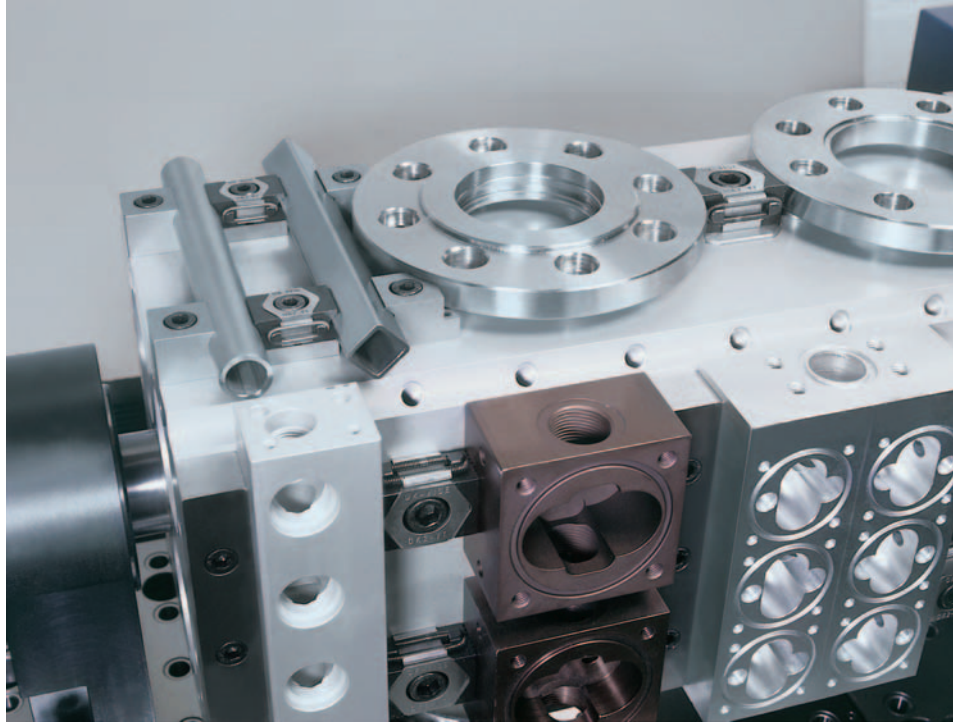
KIPP Wedge clamps double wedge, jaw faces serrated

Order No.	A min.	A max.	B	B1	C	D	E	Version 2	G	Clamping force max. kN	Tightening torque max. Nm
K0042.12	42	49	41	30	36	M12X60	5	for tapped hole	M12	40	85
K0042.1214	42	49	41	30	36	M12X50	5	for t-slot	14	40	85
K0042.16	57	67	56	42	50	M16X80	5	for tapped hole	M16	60	210
K0042.1618	57	67	56	42	50	M16X70	5	for t-slot	18	60	210

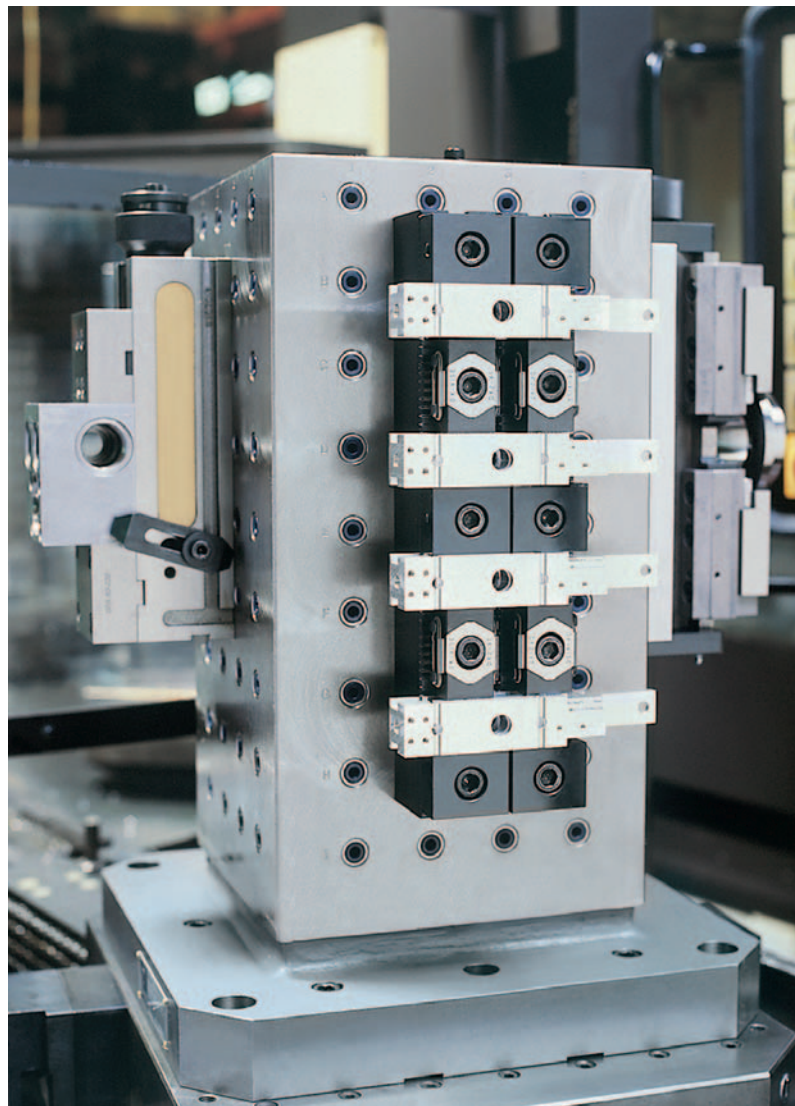
Example of wedge clamps in use



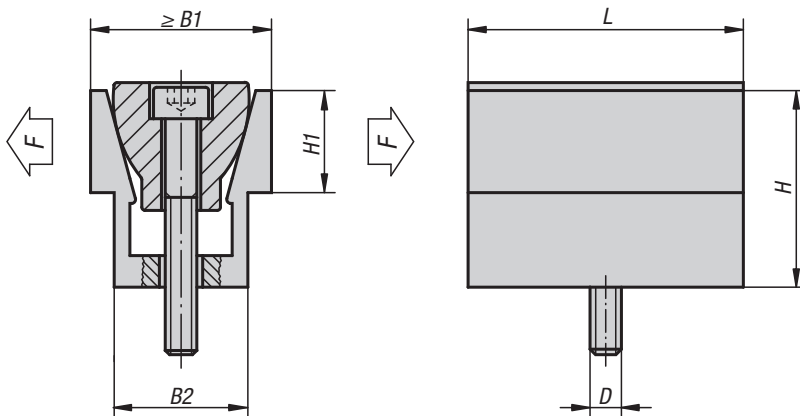
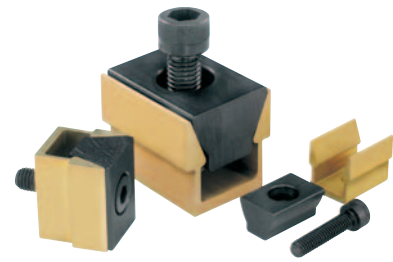
Wedge clamp



Double wedge clamps



Wedge clamps



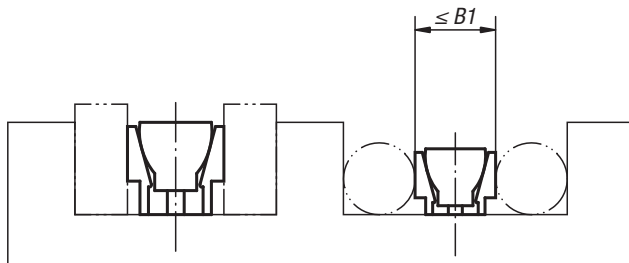
Material:
Channel aluminium profile.
Wedge hardened steel.

Version:
Channel anodised.
Wedge black oxidised.

Sample order:
K0037.08

Note:
Two workpieces can be held simultaneously with the wedge clamp. They are ideal for clamping round or rectangular pieces. The compact design allows space-saving series clamping.

Drawing reference:
In clamped position dimension B1 max. given in the table should be achieved.

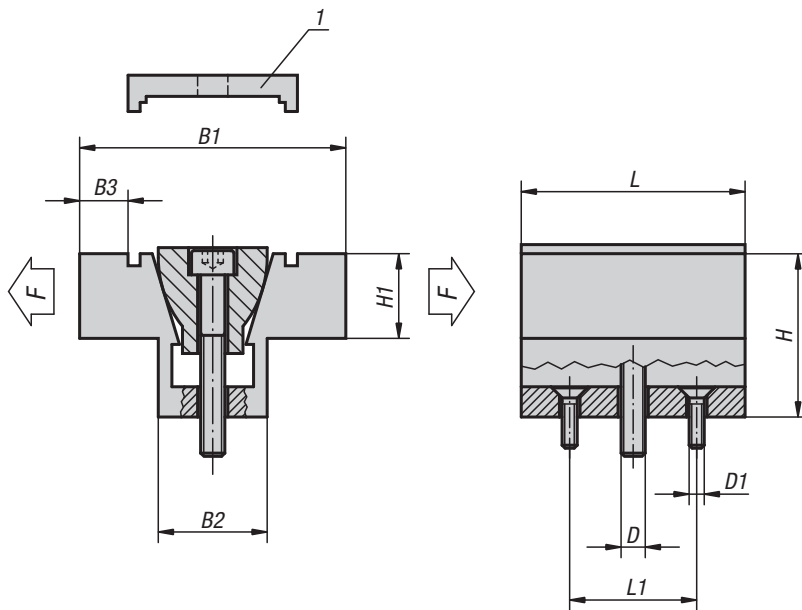
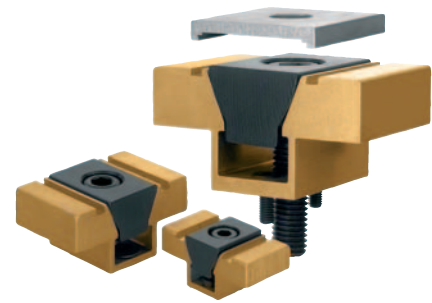


KIPP Wedge clamps

Order No.	D	L	B1 min. - max.	B2	H	H1	Clamping force max. kN	Tightening torque max. Nm
K0037.04	M4	15,9	12,3 - 13,1	10,4	12,7	5,6	2,2	3,4
K0037.06	M6	23,8	18,6 - 19,9	16,1	19	9,5	6,7	14,3
K0037.08	M8	31,7	24,8 - 26,6	20,8	25,4	12,7	8,9	14,5
K0037.12	M12	47,6	37,3 - 39,7	30,8	38,1	19	15,6	38,4
K0037.16	M16	63,5	49,7 - 52,8	41,2	50,8	25,4	26,7	74,6

Wedge clamps

machinable



Material:

Channel aluminium profile.
Wedge hardened steel.

Version:

Channel anodised.
Wedge black oxidised.

Sample order:

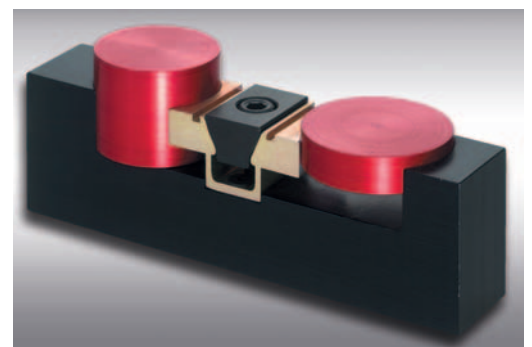
K0038.08

Note:

Two workpieces can be held simultaneously with the wedge clamp. The jaws have extra material allowing them to be machined to conform to the shape of the workpiece. The compact design allows space-saving series clamping.

Drawing reference:

1) The locking plate is only used for machining the form, not for clamping the workpiece.



KIPP Wedge clamps machinable

Order No.	D	D1	L	L1	B1 min. - max.	B2	B3	H	H1	Clamping force max. kN	Tightening torque max. Nm
K0038.04	M4	M2	15,7	10,16	28,6 - 29,1	10,6	4,6	12,7	6,3	2,2	3,4
K0038.06	M6	M4	23,9	15,9	38,1 - 39	16,1	6,6	19,1	9,4	6,7	14,3
K0038.08	M8	M4	31,8	20,6	50,8 - 52	20,8	9,9	25,4	12,7	8,9	14,5
K0038.12	M12	M5	47,5	30,5	76,2 - 78	30,9	15,7	38,1	19	15,6	38,4
K0038.16	M16	M6	63,5	41,28	101,6 - 103,9	41,3	20,3	50,8	25,4	26,7	74,6

Wedge clamps



Material:
Carbon steel.

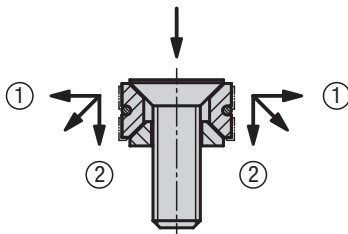
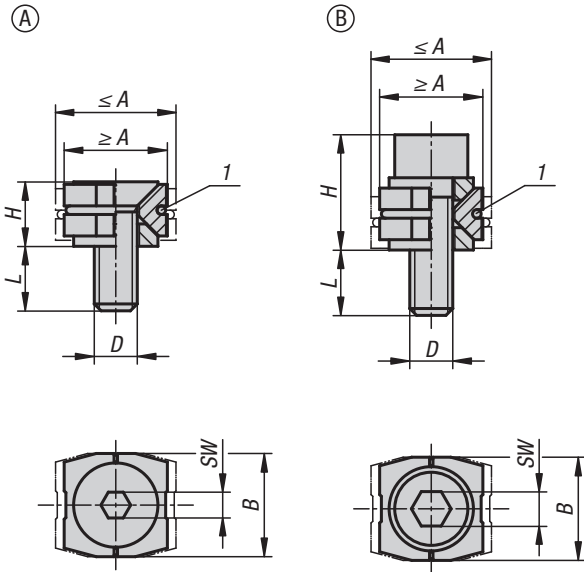
Version:
Jaw plate hardened (33–39 HRC) and black oxidised.

Sample order:
K1167.11205

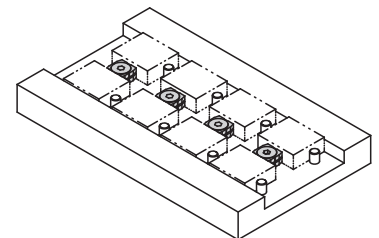
Note:
Due to the functioning principle, wedge clamps are suitable for clamping in series.
The wedges generate higher clamping forces.
The wedge clamps are available with cap screws or countersunk screws.
Wedge clamps with pull-down effect.

Drawing reference:
Dimension L refers to $\leq A$.
Dimension H refers to $\geq A$.

1) O-ring



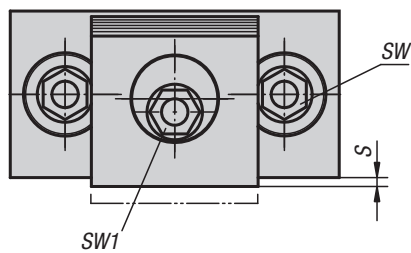
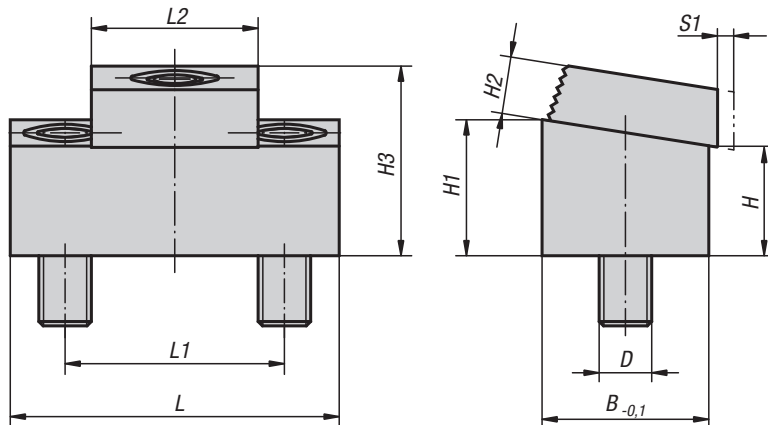
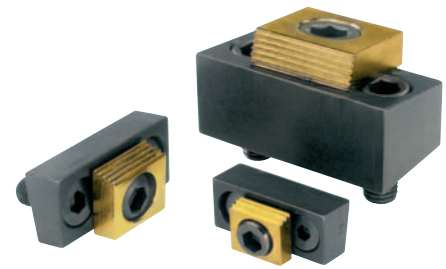
(Jaws exert positive down force)
① Horizontal thrust against workpiece
② Vertical thrust prevents the workpiece lifting



KIPP Wedge clamps

Order No.	Form	Version 2	A min.	A max.	B	D	H	L	SW	Clamping force max. kN	Tightening torque max. Nm
K1167.11205	A	with csk. screw	12	14	12	M5X15	7,5	9,5	3	2	4,3
K1167.11506	A	with csk. screw	15	17	14,8	M6X16	8,7	9,3	4	3,5	7,3
K1167.11808	A	with csk. screw	18,5	21,5	18,4	M8X20	11,8	11,3	5	5	18
K1167.21205	B	with socket head screw	12	14	12	M5X16	13,4	9,6	4	3	5,4
K1167.21506	B	with socket head screw	15	17	14,8	M6X18	15,8	10,2	5	4,5	9,1
K1167.21808	B	with socket head screw	18,5	21,5	18,4	M8X25	21,2	14,9	6	9	22

Toe clamps compact



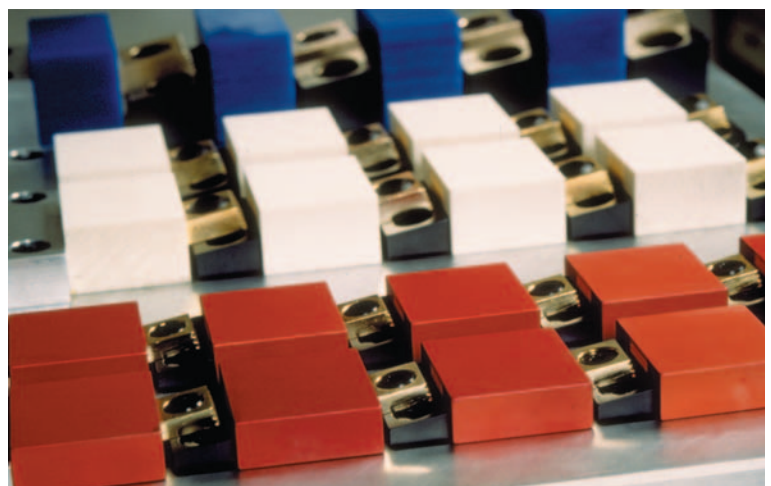
Material:
Steel.

Version:
Body tempered and black oxidised.
Square washer case-hardened and brass-plated.

Sample order:
K0036.10

Note:
This cam action compact toe clamp requires very little space to produce multi-fixture clamping. Workpieces can be clamped in series by using the back side of a clamp as a stop for the next row. Mount preferably in slots with $B +0.05$ mm. The height of the clamp can be adjusted by altering the slot depth.

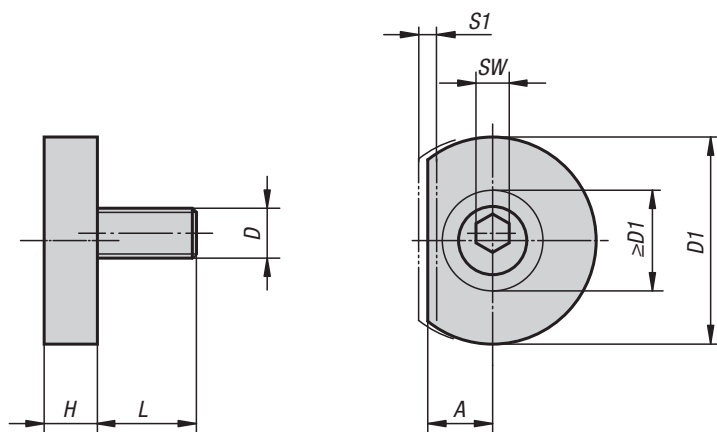
Example of series clamping using compact toe clamps



KIPP Toe clamps compact

Order No.	L	L1	L2	B	H	H1	H2	H3 max.	S	D	S1 (travel)	SW	SW1	Clamping force kN	Tightening torque max. Nm
K0036.08	43,2	25,4	19	19	12,7	15,7	6,4	21,4	1,5	M8	1,6	5	7	8,9	28
K0036.10	54	33,5	25,4	25,4	11,4	15,4	9,7	24,5	1,8	M10	2	7	8	17,8	88
K0036.12	75	50,8	38	38,1	25,5	31,5	13	43	2,05	M12	2,5	10	12	26,7	135

Fixture clamps machinable



Material:

Cam screw alloyed steel.
Clamping disc steel.

Version:

Cam screw and clamping disc black oxidised.

Sample order:

K0022.06

Note:

These fixture clamps have a round washer that can be machined to suit the contour of the workpiece being clamped. This allows positive clamping for round, contoured or fragile workpieces. The flat edge is the same distance from the screw centre as our hexagonal fixture clamps K0026 allowing an interchange between the two.

“A” = distance from workpiece to screw centre (cam screw).

“D1 min.” = maximum depth of contour.

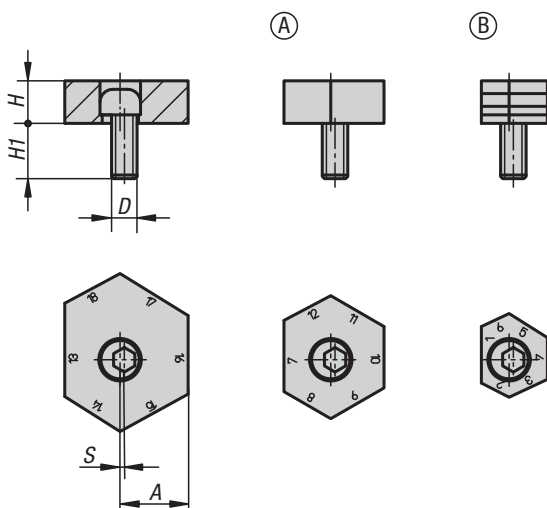
On request:

Replacement cam screws.

KIPP Fixture clamps machinable

Order No.	A	D	D1	D1 min.	H	L	SW	S1 (travel)	Clamping force kN
K0022.06	7,8	M6	24,9	12,1	6,4	11,9	4	1,01	3,3
K0022.10	10,2	M10	31,2	17,2	8,9	18	7	1,52	8,9
K0022.12	12,7	M12	37,6	22,4	11,4	22,9	8	2,03	17,8
K0022.16	15	M16	43,9	26,1	14	28,6	12	2,54	26,7

Fixture clamps unequal hexagon



Material:

Cam screw steel tempered to 10.9.
Hexagon washer mild steel.

Version:

Cam screw black oxidised.
Hexagon washer hardened and black oxidised.

Sample order:

K0023.13

Note:

These unequal hexagon fixture clamps can minimise the cost of clamping in fixtures. The clamping range can be altered up to 17 mm from the same tapped hole. Simply rotate the hexagon washer. The washers are available with smooth edges for machined faces or with serrated edges for rough faces.

On request:

Replacement cam screws.

KIPP Fixture clamps unequal hexagon

Order No. Form A smooth	Order No. Form B serrated	Distance A by face No.	D	H	H1	S (cam travel)	Clamping force kN
K0023.09	K0023.13	1/12, 2/13, 3/14, 4/15, 5/16, 6/17	M12	10	22	1	18
K0023.10	K0023.14	7/18, 8/19, 9/20, 10/21, 11/22, 12/23	M12	10	22	1	18
K0023.11	K0023.15	13/24, 14/25, 15/26, 16/27, 17/28, 18/29	M12	10	22	1	18

Spiral cam screws



Material:
Steel.

Version:
Case-hardened (56 ± 1 HRC) and blue electro zinc-plated.
Grade 8.8

Sample order:
K0024.0408

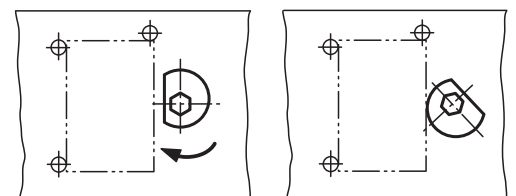
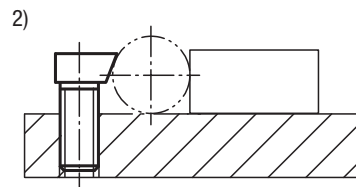
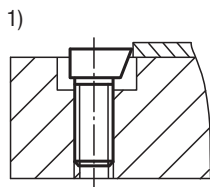
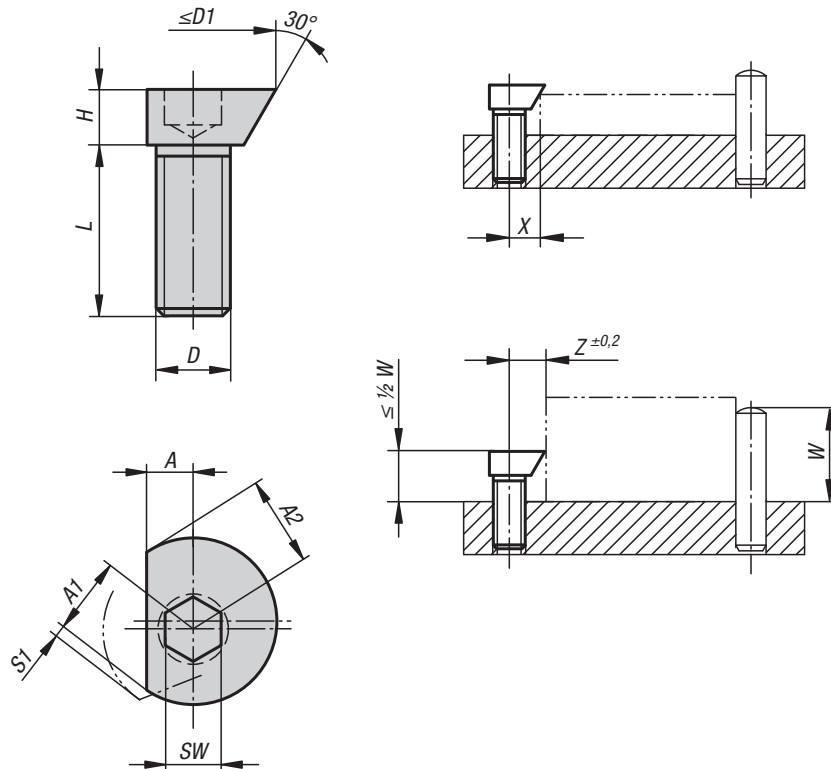
Note:
Robust, compact spiral cam clamping screws that exert a positive down force on diverse workpiece forms.

Assembly:
Drill and tap several holes at a distance X or Z (see diagram). Screw the cam screw into the required height and position with the flat side to the workpiece. Position the workpiece and tighten the cam screw with a hexagon key. Full clamping is achieved with approximately a 1/3 rotation. Lubricate the tapped hole regularly.

Place stops on the face towards which the screw turns to prevent the workpiece rotating away.

On request:
Spiral cam screws with LH thread.

Drawing reference:
1) clamping sheet metal
2) clamping round parts

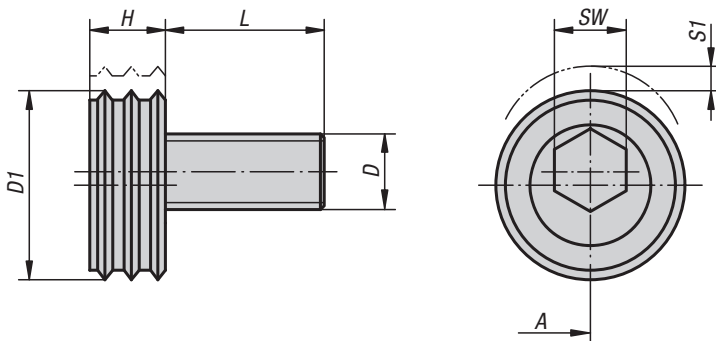


KIPP Spiral cam screws

Order No.	A	A1	A2	D	D1 max.	H	L	SW	S1 (travel)	X	Z	Clamping force kN	Tightening torque max. Nm
K0024.0408	3	4,6	4	M4	9,2	3	8	2,5	0,6	3,5	4,2	0,09	1,5
K0024.0510	3,5	5,7	5	M5	11,4	4	10	3	0,7	4,2	5,2	0,1	2
K0024.0612	4,5	7,1	6,1	M6	14,2	5	12	4	1	5,4	6,4	0,3	4,5
K0024.0816	5,5	8,9	7,7	M8	18	6	16	5	1,2	6,6	8	2,7	20
K0024.1020	6,5	11,1	9,4	M10	22,2	7	20	6	1,7	8,3	9,8	4	30
K0024.1224	8	13,5	11,6	M12	27	9	24	8	1,9	10,1	12	5,4	44

Cam screws

with knife edge washer



Material:

Knife edge washer.
Cam screw carbon steel.

Version:

Cam screw tempered to 10.9 and black oxidised.
Knife edge washer hardened and anodised.

Sample order:

K0025.16

Note:

Also called knife edge clamps.
The hardened knife edge washer is suitable for clamping rough cut stock, castings, forgings etc.

“A” = distance from workpiece to screw centre (cam screw).

On request:

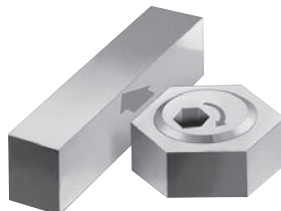
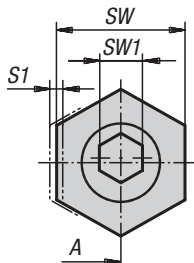
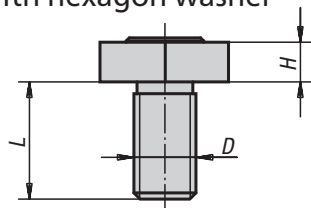
Replacement cam screws.

KIPP Cam screws with knife edge washer

Order No.	A	D	D1	L	H	SW	S1 (travel)	Clamping force kN	Tightening torque max. Nm
K0025.12	12,7	M12	25,4	22,5	9,6	8	2	18	88
K0025.16	15	M16	30,1	26,8	12,7	12	2,5	27	135

Cam screws

with hexagon washer



Material:

Cam screw carbon steel.
Hex washer brass.

Version:

Cam screw tempered to 10.9 and black oxidised.

Sample order:

K0026.12

Note:

Also called fixture clamps.

The minimal height of this fixture clamp allows numerous clamping problems in fixture and equipment construction to be solved. The brass hex washer offers a gentle yet extremely stable and safe clamping of workpieces. By using several fixture clamps entire pallets can be set-up.

“A” = distance from workpiece to screw centre (cam screw).

On request:

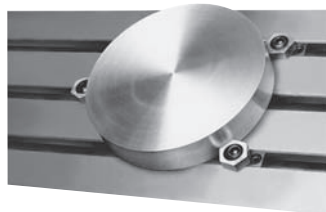
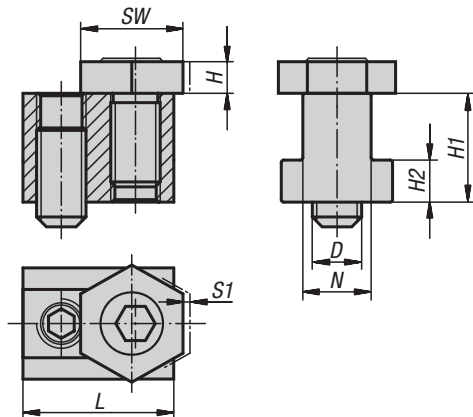
Replacement cam screws.

KIPP Cam screws with hexagon washer

Order No.	A	D	H	L	SW	SW1	S1 (travel)	Clamping force kN	Tightening torque max. Nm
K0026.04	3,8	M4	2,8	10	8	3	0,8	0,9	2,2
K0026.06	7,8	M6	4,8	12	16	4	1	3,4	8,5
K0026.08	10,2	M8	4,8	15	20,6	5	1	3,6	11,3
K0026.10	10,2	M10	6,4	20	20,6	7	1,6	9,0	28,06
K0026.12	12,7	M12	9,5	25	25,4	8	2	18,0	88
K0026.16	15	M16	12,7	30	30,2	12	2,5	27,0	135

Cam screws

with hexagon washer, for T-slots



Material:

Carbon steel.
Hex washer brass.

Version:

Tempered to 10.9 and black oxidised.

Sample order:

K0027.12

Note:

Also called fixture clamps for T-slots.

These fixture clamps can be used directly on machine tables or other tables with T-slots. The grub screw at the rear locks the T-nut in the slot. Thin shims are recommended to prevent marking the bottom of the T-slot.

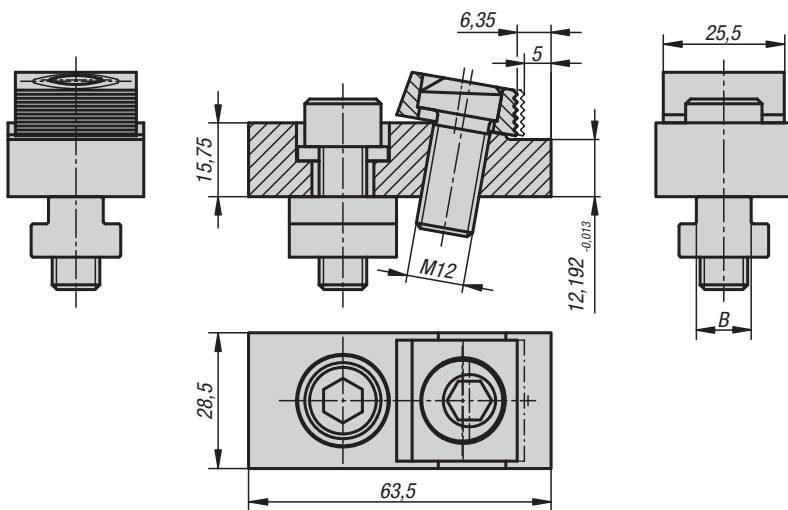
On request:

Replacement cam screws.

KIPP Cam screws with hexagon washer, for T-slots

Order No.	D	N	H	H1	H2	L	SW	S1 (travel)	Clamping force kN
K0027.08	M6	8	4,8	9,6	4,5	23	16	1	3,4
K0027.10	M6	10	4,8	14	4,5	23	16	1	3,4
K0027.12	M8	12	4,8	15,5	6,5	28	21	1	3,6
K0027.14	M10	14	6,4	22	8,5	30,5	21	1,6	9
K0027.16	M12	16	9,5	22,5	9	30,5	25	2	18
K0027.18	M12	18	9,5	28,5	10	34,5	25	2	18
K0027.20	M16	20	12,7	32	12	39	30	2,5	27
K0027.22	M16	22	12,7	38,2	14	44	30	2,5	27

Cam clamps with riser



Material:
Steel.

Version:
Body tempered and black oxidised.
Square washer case hardened and brass-plated.

Sample order:
K0028.16

Note:
Also called riser clamps.
These cam clamps with riser can be used directly on machine tables. A positive down force is exerted during clamping.

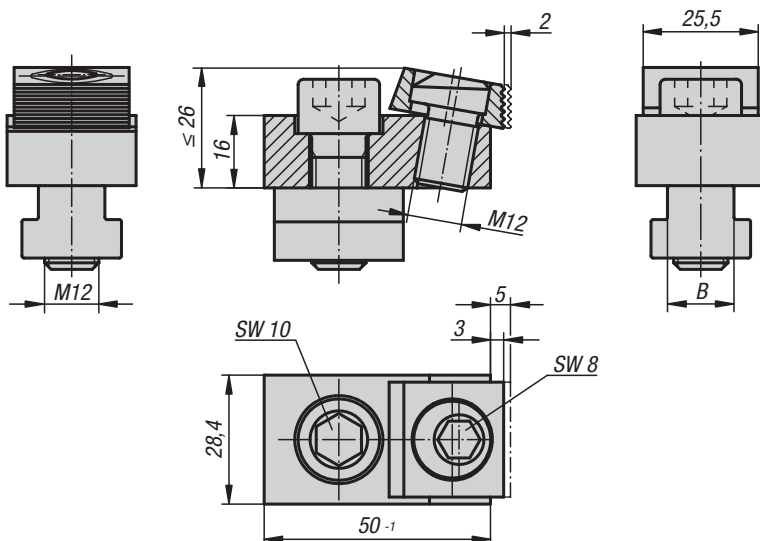
On request:
Replacement cam screws.

KIPP Cam clamps with riser

Order No.	B Slot width	Clamping force kN
K0028.12	12	12
K0028.14	14	12
K0028.16	16	12
K0028.18	18	12

K0029

Toe clamps for T-slots



Material:
Steel.

Version:
Body tempered and black oxidised.
Square washer case hardened and brass-plated.

Sample order:
K0029.14

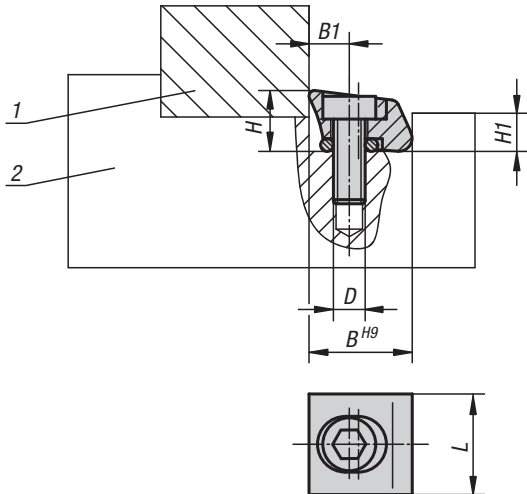
Note:
These toe clamps can be used on machine tables or adapter plates. The positive down force holds the workpiece down on the supporting surface. The square washer can adapt slightly to an angular position i.e. the workpiece does not have to be exactly parallel. The clamping washer has a smooth side for machined surfaces and a serrated side for rough faces.

On request:
Replacement cam screws.

KIPP Toe clamps for T-slots

Order No.	B Slot width	Clamping force kN
K0029.00	without T-nut and screw	18
K0029.14	14	18
K0029.16	16	18
K0029.18	18	18

Chock clamps



Material:

Clamping element steel or brass.

Version:

Steel hardened.

Sample order:

K0030.113

Note:

Also known as pitbull clamps.
Extremely space-saving design.
No protruding edges due to lateral clamping.
Positive down force.

Drawing reference:

- 1) workpiece
- 2) Fixture

KIPP Chock clamps

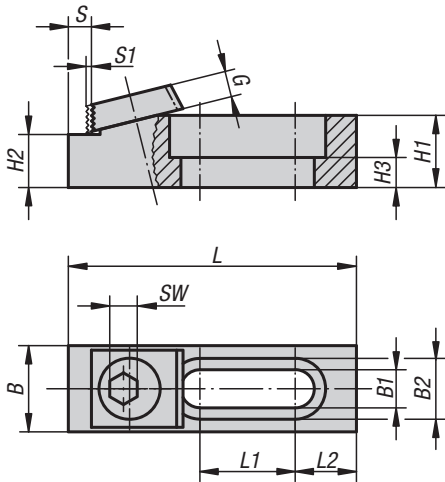
Order No.	Version	Main material	D	B	B1	H	H1	L	Clamping travel	Clamping force kN	Tightening torque max. Nm
K0030.110	with knife edge	steel	M2,5 x 8	9,5	3,8	6	3,6	9,5	0,15	2,8	1,8
K0030.113	with knife edge	steel	M4 x 12	12,7	5,1	8	4,8	13	0,4	6,6	5,6
K0030.119	with knife edge	steel	M6X16	19,05	7,6	11,5	7,2	19	0,6	16	22,5
K0030.210	with blunt edge	steel	M2,5 x 8	9,5	3,8	6	3,6	9,5	0,15	2,8	1,8
K0030.213	with blunt edge	steel	M4 x 12	12,7	5,1	8	4,8	13	0,4	6,6	5,6
K0030.219	with blunt edge	steel	M6X16	19,05	7,6	11,5	7,2	19	0,6	16	22,5
K0030.310	with blunt edge	brass	M2,5 x 8	9,5	3,8	6	3,6	9,5	0,15	0,9	0,56
K0030.313	with blunt edge	brass	M4 x 12	12,7	5,1	8	4,8	13	0,4	1,8	2,8
K0030.319	with blunt edge	brass	M6X16	19,05	7,6	11,5	7,2	19	0,6	4,2	5,6

Cam clamps

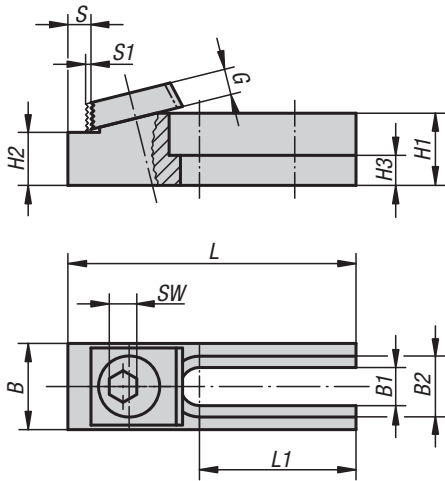
adjustable with riser



K0031.08, K0031.12



K0031.16



Material:

Steel.

Version:

Body tempered, black oxidised, riser faces ground. Square washer case hardened and brass-plated.

Sample order:

K0031.12

Note:

Also called multi-fixture clamps and stops. Cost-effective custom made clamping fixtures can be produced using the adjustable riser cam clamps together with the matching riser stops.

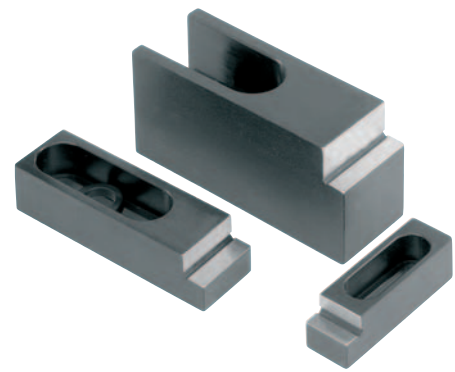
On request:

Replacement cam screws.

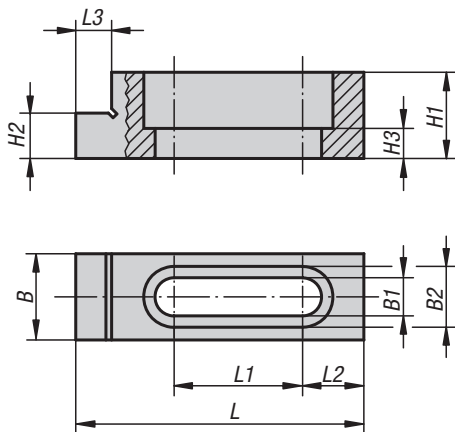
KIPP Cam clamps adjustable with riser

Order No.	suitable fastening screw	L	L1	L2	B	B1	B2	H1	H2	H3	S	S1	G	SW	Long hole	Clamping force kN	Tightening torque max. Nm
K0031.08	M8	63,5	21	13,5	19	8,4	13,4	15,9	11,684 -0,013	6,6	6,3	1,2	5,3	7	closed	8,9	28
K0031.12	M12	95,1	42,7	12,7	28,5	13	19,8	15,9	12,192 -0,013	6,9	7,1	2	9,5	8	closed	17,8	88
K0031.16	M16	107	46,3	-	38	17	24,8	41	35,001 -0,013	21	8,3	2,5	12,7	12	open	26,7	135

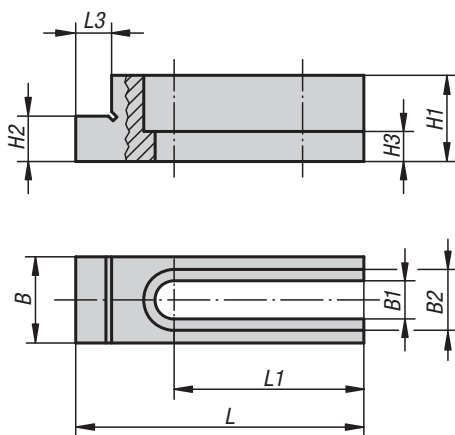
Riser stops



K0032.08, K0032.12



K0032.16



Material:
Steel.

Version:
Tempered, black oxidised.
Riser faces ground.

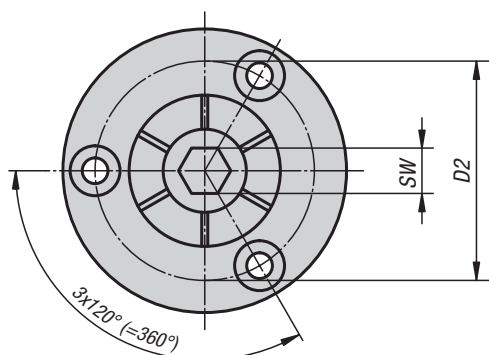
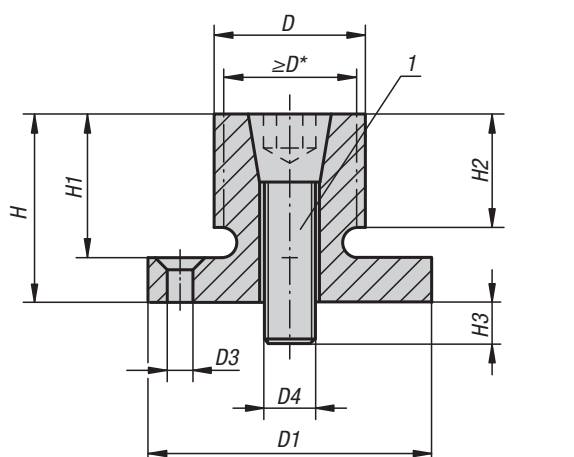
Sample order:
K0032.12

Note:
Also called multi-fixture clamps and stops.
Cost-effective custom made clamping fixtures can be produced using the adjustable riser cam clamps together with the matching riser stops.

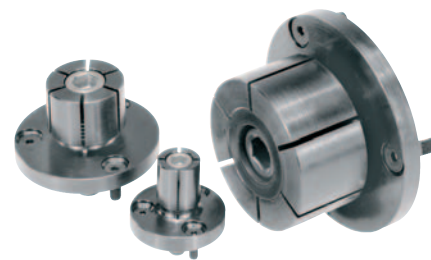
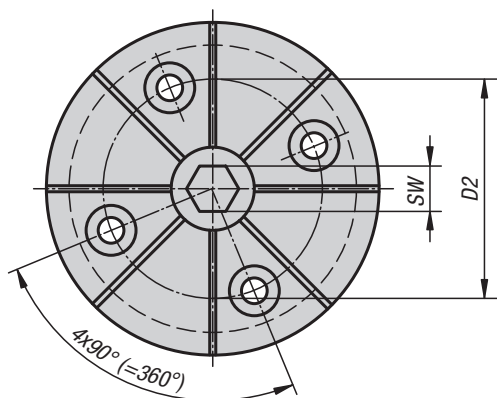
KIPP Riser stops

Order No.	suitable fastening screw	L	L1	L2	L3	B	B1	B2	H1	H2	H3	Long hole
K0032.08	M8	63,5	28,3	13,5	7,9	19	8,4	13,4	19	11,684 -0,013	6,6	closed
K0032.12	M12	95,2	42,7	12,7	7,9	28,5	13,4	19,8	22	12,192 -0,013	6,9	closed
K0032.16	M16	107	46,2	-	9,5	38	17	24,8	50,7	35,001 -0,013	21,3	open

Mandrel collets



K0357.1630175



Material:
Mandrel mild steel.
Taper-head screw low-carbon steel

Version:
Mandrel black oxidised.
Taper-head screw case-hardened.

Sample order:
K0357.081420

Note:
The mandrel collet is ideal for finish machining turned parts. The diameter "D" can be turned or milled to suit the workpiece ID.
Low design - no interfering clamp straps.
Tightened using a hex socket wrench or hydraulics.

* D min. = smallest diameter to which "D" may be turned or milled.

Assembly:
Expand the mandrel approx. 0.1 mm over the relaxed diameter. Turn or mill the mandrel to suit the internal diameter of the workpiece. The base flange can be centred in a pocket or using dowel pins.

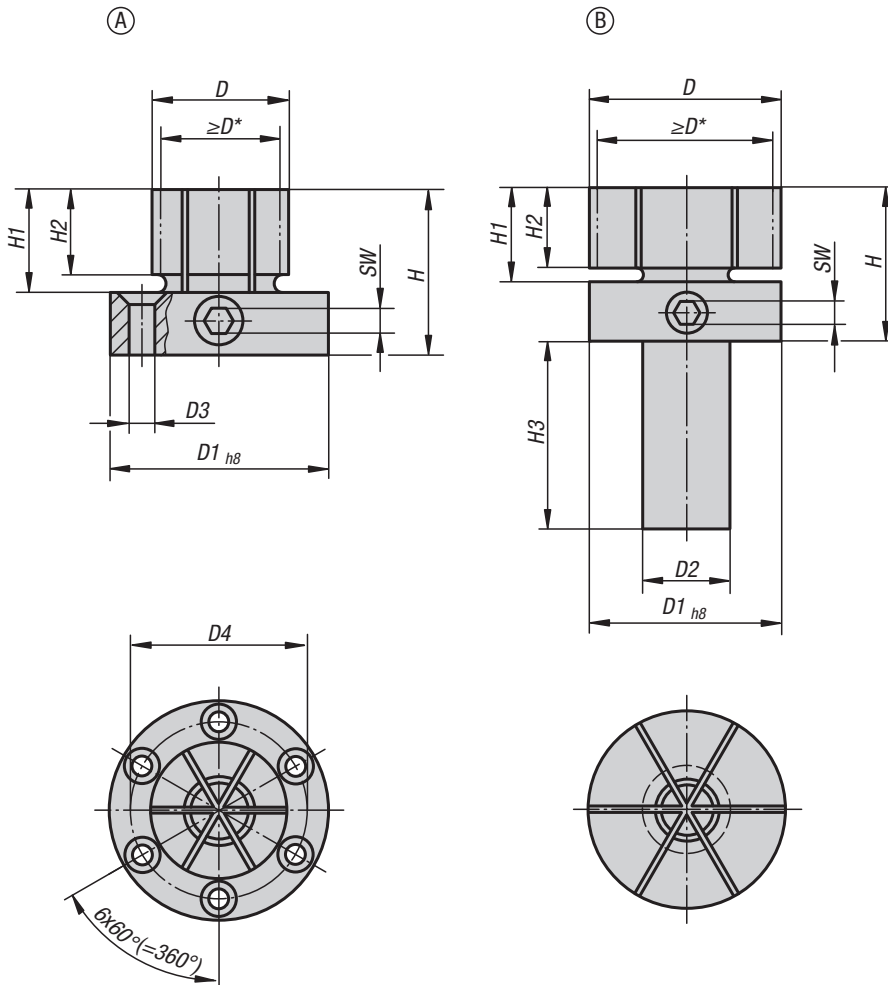
Drawing reference:
1) taper-head screw

KIPP Mandrel collets

Order No.	D	D min.	D1	D2	D3 for screw ISO 10642	D4 Tapered- head bolt	H	H1	H2	H3	SW Tapered- head bolt	Tightening torque max. Nm	Clamping force max. kN
K0357.020407	7,4	4,1	20 h9	13,7	M2	M2	10,7	7,6	6,1	4,1	1,5	0,7	1,1
K0357.040812	12,4	8	29,72 h9	21	M3	M4	21,8	16	15	8	3	5	4,2
K0357.061214	14,2	12,2	31,5 h9	23,1	M3	M6	24,9	19	15	12	5	17	8,5
K0357.081420	20	13,5	37,5 h9	29	M3	M8	24,9	19	15	14	6	34	11,1
K0357.062027	27	18	50 h9	39,4	M4	M10	28,6	22,2	17,5	17	8	60	20
K0357.102535	35,3	23	56 h9	45,5	M4	M12	31,8	25,4	20,6	21	10	150	26,3
K0357.123442	42	29,3	69,5 h8	55,9	M5	M16	39,6	31,8	27	22	14	280	44,5
K0357.123452	51,5	29,3	75,5 h9	63,9	M5	M16	39,6	31,8	27	22	14	280	44,5
K0357.163077	77,7	29,3	107,5 h9	92,5	M6	M16	45,5	37,6	32,3	20	14	280	44,5
K0357.1630103	103	29,3	132,9 h9	118	M6	M16	45,5	37,6	32,3	20	14	280	44,5
K0357.1630175	175	29,3	132,9 h9	118	M6	M16	45,5	37,6	32,3	20	14	280	44,5

Mandrel collets

with side lock



Material:

Mandrel mild steel.

Clamping screw carbon steel.

Version:

Mandrel black oxidised.

Clamping screw tempered to 10.9, hardened and PTFE coated.

Sample order:

K0643.118029

Note:

The side lock make these mandrel collets ideal for finish machining parts with blind internal diameters. The diameter "D" can be turned or milled to suit the workpiece ID.

Manual tightening with hexagon socket wrench.

* D min. = smallest diameter to which "D" may be turned or milled.

Assembly:

Expand the mandrel approx. 0.1 mm over the relaxed diameter. Turn or mill the mandrel to suit the internal diameter of the workpiece. A locking ring is included for machining.

The shank or flange is centred in a reamed hole or pocket.

Form A is supplied with 6 fastening screws.

Drawing reference:

Form A:

for machining centres, drilling and milling machines

Form B:

with shaft for holding in lathe chucks

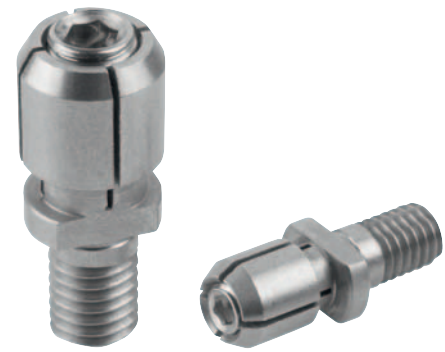


KIPP Mandrel collets with side lock

Order No.	Form	D	D min.	D1	D2	D3 for screw ISO 10642	D4	H	H1	H2	H3	SW	Tightening torque max. Nm	Clamping force max. kN
K0643.118029	A	28,7	17,8	50	-	M4	39,4	41,3	22,4	17,5	-	6	66	20
K0643.218053	B	53,3	18	53,3	25	-	-	44,4	25,4	21	45	6	66	20

Mandrel collet

for small bores



Material:

Stainless steel 1.4305.

Version:

Bright.

Sample order:

K1293.104050

Note:

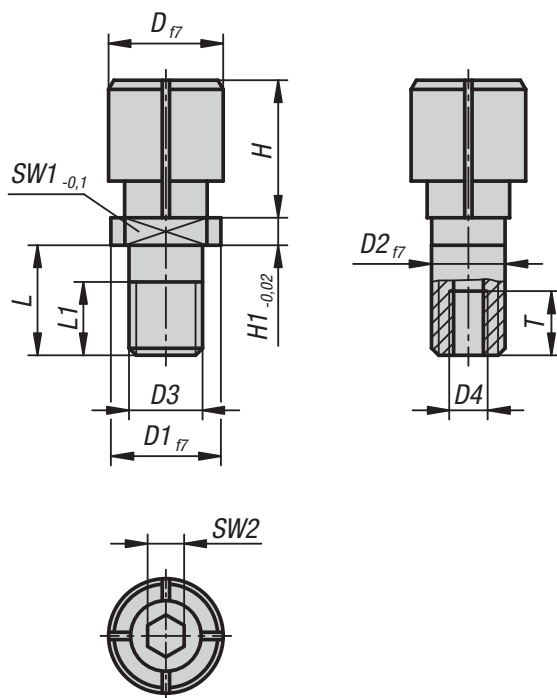
The mandrel collet is used in small through bores to position and clamp workpieces. Clamping is carried out manually from above using a hex key. The mandrel diameter can be ground to suit the application. The bore for the mandrel should have an H7 tolerance.

D min = smallest permissible diameter to which D can be ground.

- applicable for holes from Ø5 to Ø12.5 mm
- compact design, small installation space
- simple handling
- mounting in any position
- different installation types possible
- surface pressure protects the workpiece surface
- individually adaptable to the diameter

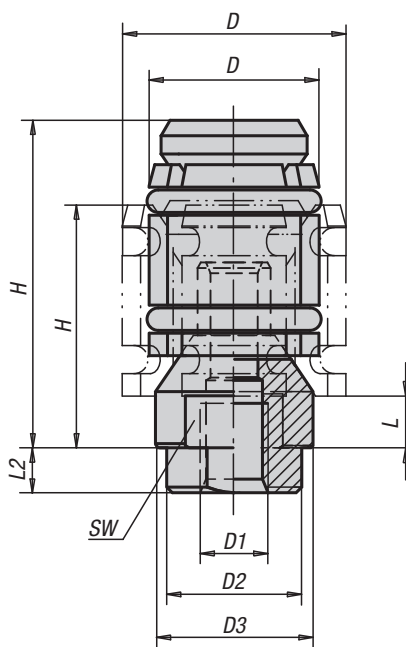
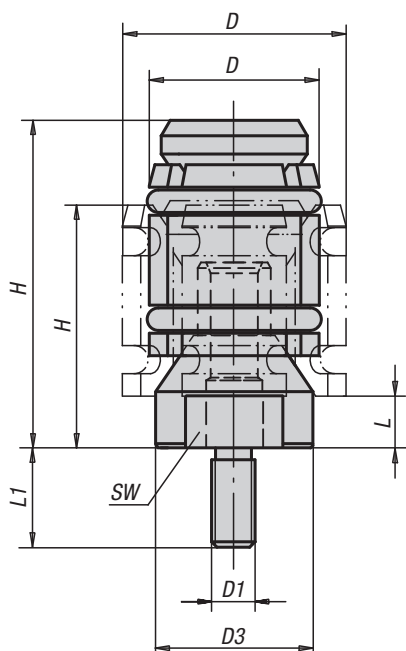
Assembly:

If required, diameter D can be adapted to suit the diameter being held. To do this, expand the mandrel collet ca. 0.2 mm over the required diameter. Grind the OD of the mandrel collet to suit the ID of the workpiece bore.



KIPP Mandrel collet for small bores

Order No.	D	D min.	D1	D2	D3	D4	H	H1	L	L1	SW1	SW2	T	Tightening torque max. Nm	Clamping force max. kN
K1293.105060	6	5	10	6	M6	M3	8	2,5	10	6	6	2	6	0,9	0,19
K1293.106080	8	6	10	6	M6	M3	10	2,5	10	6	6	2,5	6	2,4	0,34
K1293.108100	10	8	12	8	M8	M4	12	3	12	8	8	3	7	4,4	0,62
K1293.110125	12,5	10	12	8	M8	M4	15	3	12	8	8	4	7	8,1	0,62

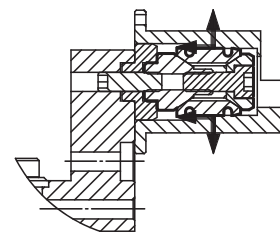
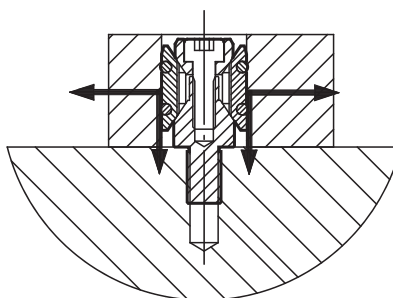
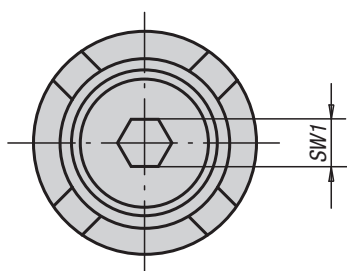


Material:
Body steel.
Bushes carbon steel.

Version:
Black oxidised.

Sample order:
K0893.0615

Note:
These centring clamps enable workpieces to be centred on and lightly clamped in a bore. The clamps have a wide expansion range. The series covers a bore range of Ø12 to Ø30 mm. To increase the centring accuracy the clamps with internal thread have a centring spigot (D2) for a locating hole. The centring accuracy is ±0.2 mm. Centring clamps with female threads fit on M6 grid systems (see illustration).



KIPP Centring clamps

Order No.	Thread type	D min.	D max.	D1	D2	D3	H min.	H max.	L min.	L1	L2	SW	SW1	Clamping force max. kN	Tightening torque max. Nm
K0893.0615	internal thread	12	15	M6	12	11,4	22	27,5	4,8	-	4	9	2,5	1,5	2,2
K0893.0619	internal thread	15	19	M6	12	14	24,5	32	4,8	-	4	12	4	2,5	6
K0893.0624	internal thread	19	24	M6	12	17,8	26	35	4,5	-	4	15	5	4	10
K0893.0630	internal thread	24	30	M6	12	23	32	44,5	7	-	4	19	5	4,5	10
K0893.061215	external thread	12	15	M6	-	11,4	22	27,5	4,8	12	-	9	2,5	1,5	2,2
K0893.061219	external thread	15	19	M6	-	14	24,5	32	4,8	12	-	12	4	2,5	6
K0893.081624	external thread	19	24	M8	-	17,8	26	35	4,5	16	-	15	5	4	10
K0893.081630	external thread	24	30	M8	-	23	32	44,5	7	16	-	19	5	4,5	10

Centring clamps

with ball or hexagon segments



Material:

Body 1.2842.
Ball and hex segments 1.4112.
Tension spring 1.4310.

Version:

Body hardened and black oxidised.
Ball and hex segments hardened and ground.

Sample order:

K0358.101203

Application:

To position and centre existing bores on the machining surface.

Advantages:

- Precise self-centring.
- Distortion free clamping.
- Large spread range.
- Low overall height.

Technical data:

Repetitive accuracy ± 0.025
Concentric accuracy ± 0.05

Drawing reference:

Form A:

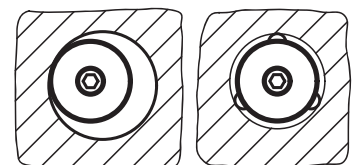
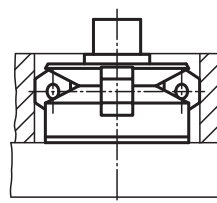
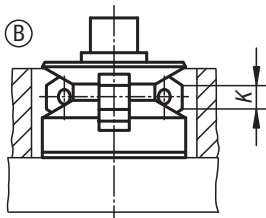
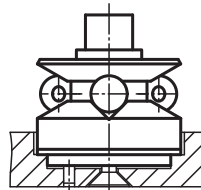
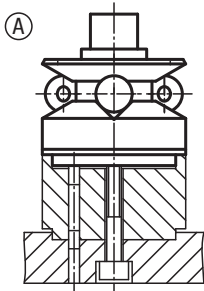
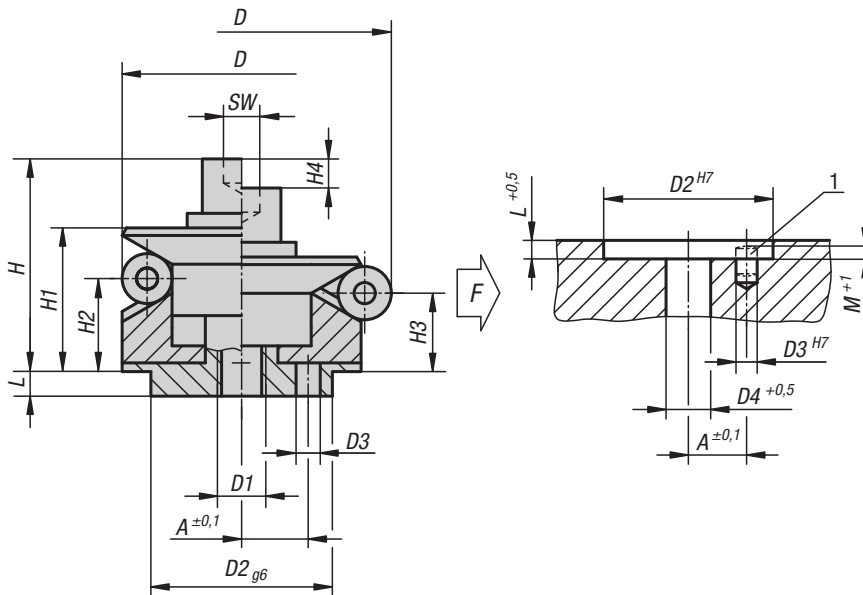
With balls for holes where light marking is acceptable.

Form B:

With hexagons for sensitive hole surfaces.

1) Mounting aid:

pin to accurately position the mandrel segments.



Centring clamps

with ball or hexagon segments



KIPP Centring clamps with ball segments

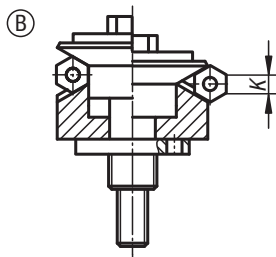
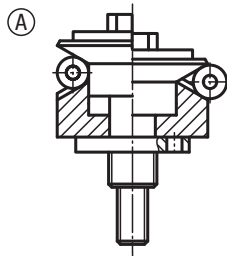
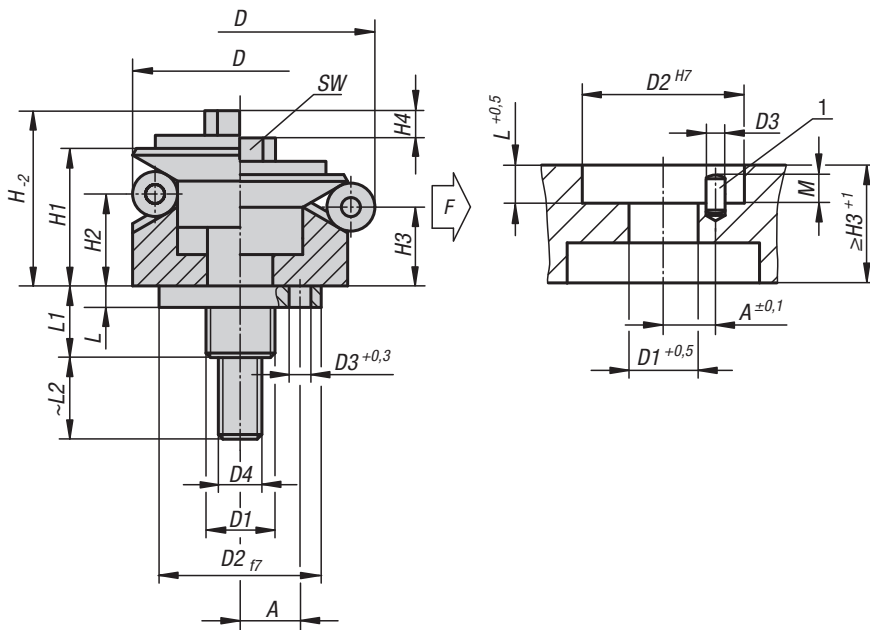
Order No.	Form	A	D min.	D max.	D1	D2	D3	D4	H	H1	H2	H3	H4	L	M	SW	Ball Ø	No. of balls	Clamping force max. kN	Tightening torque max. Nm
K0358.101203	A	3,5	11,7	14,2	M4	10	1,5	4,3	15	10	4,2	3	1,5	3,5	2,5	3	2,5	3	0,5	5
K0358.101504	A	4,5	14,5	18,5	M4	12	2	4,3	19,5	14,5	9,8	8,6	2,3	5,5	3	3	4	3	3,5	5
K0358.101905	A	5,5	18,5	22,5	M5	15	2,5	5,3	23,5	16,5	11,6	10,4	2,3	7,5	3	4	4	3	4	10
K0358.102306	A	7	22,5	26,5	M6	20	3	6,4	28,8	19,8	14,2	13	2,3	6	4	5	4	3	4,5	17
K0358.102706	A	7	26,5	30,5	M6	20	3	6,4	28,8	19,8	14,2	13	2,3	6	4,5	5	4	3	4,5	17
K0358.103106	A	9	30,5	38,5	M6	25	4	6,4	32,7	23,1	14,2	11,9	4,6	7	4,5	5	8	3	4,5	17
K0358.103908	A	11	38,5	46,5	M8	30	4	8,4	39,2	27,2	17,8	15,5	4,6	7,5	4,5	6	8	6	6,5	43
K0358.104708	A	11	46,5	54,5	M8	30	4	8,4	39,2	27,2	18	15,7	4,6	7,5	4,5	6	8	6	6,5	43
K0358.105510	A	15	54,5	70,5	M10	45	5	10,5	54,6	40,6	23,7	19,1	9,3	9	5,5	8	16	6	8	79
K0358.107112	A	17	70,5	86,5	M12	60	5	13	63,1	46,1	28,3	23,7	9,3	10	5,5	10	16	6	10	141
K0358.108712	A	25	86,5	102,5	M16	60	5	17	73	51	30,2	25,7	9,3	10	5,5	14	16	6	12,5	354

KIPP Centring clamps with hexagon segments

Order No.	Form	A	D min.	D max.	D1	D2	D3	D4	H	H1	H2	H3	H4	L	M	K	SW	No. of hex	Clamping force max. kN	Tightening torque max. Nm
K0358.201504	B	4,5	14,5	18,5	M4	12	2	4,3	19,5	14,5	9,8	8,6	2,3	5,5	3	4	3	3	3,5	5
K0358.201905	B	5,5	18,5	22,5	M5	15	2,5	5,3	23,5	16,5	11,6	10,4	2,3	7,5	3	4	4	3	4	10
K0358.202306	B	7	22,5	26,5	M6	20	3	6,4	28,8	19,8	14,2	13	2,3	6	4	4	5	3	4,5	17
K0358.202706	B	7	26,5	30,5	M6	20	3	6,4	28,8	19,8	14,2	13	2,3	6	4,5	4	5	3	4,5	17
K0358.203106	B	9	30,5	38,5	M6	25	4	6,4	32,7	23,1	14,2	11,9	4,6	7	4,5	8	5	3	4,5	17
K0358.203908	B	11	38,5	46,5	M8	30	4	8,4	39,2	27,2	17,8	15,5	4,6	7,5	4,5	8	6	6	6,5	43
K0358.204708	B	11	46,5	54,5	M8	30	4	8,4	39,2	27,2	18	15,7	4,6	7,5	4,5	8	6	6	6,5	43
K0358.205510	B	15	54,5	70,5	M10	45	5	10,5	54,6	40,6	23,7	19,1	9,3	9	5,5	16	8	6	8	79
K0358.207112	B	17	70,5	86,5	M12	60	5	13	63,1	46,1	28,3	23,7	9,3	10	5,5	16	10	6	10	141
K0358.208712	B	25	86,5	102,5	M16	60	5	17	73	51	30,2	25,7	9,3	10	5,5	16	14	6	12,5	354

Centring clamps

with ball or hexagon segments



Material:

Body 1.2842.
Ball and hex segments 1.4112.
Tension spring 1.4310.

Version:

Body hardened and black oxidised.
Ball and hex segments hardened and ground.

Sample order:

K0644.0101203

Application:

For centre positioning and clamping in blind holes.
Operated from below, manual or automatic using pneumatics or hydraulics.

Advantages:

- Precise self-centring.
- Distortion free clamping.
- Large spread range.
- Low overall height.
- Positive down force.

Technical data:

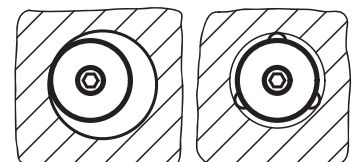
Repetitive accuracy ± 0.025
Concentric accuracy ± 0.05

Drawing reference:

Form A:
With balls for holes where light marking is acceptable.
Form B:
With hexagons for sensitive hole surfaces.

1) Mounting aid:

pin to accurately position the mandrel segments.



Centring clamps

with ball or hexagon segments



KIPP Centring clamps with ball segments

Order No.	Form	A	D min.	D max.	D1	D2	D3	D4	H	H1	H2	H3	H4	L	L1	L2	M	SW	Ball Ø	No. of balls	Clamping force max. kN	Tightening torque max. Nm
K0644.0101203	A	3,5	11,7	14,2	M5	10	1,5	M3	12,8	10	4,2	3	1,4	3,5	11	10	2	5,5	2,5	3	0,5	2
K0644.0101503	A	4,5	14,5	18,5	M6	12	2	M3	17,3	14,5	9,8	8,6	2,3	5,5	14,1	12	2,5	5,5	4	3	3,5	2
K0644.0101904	A	5,5	18,5	22,5	M8	15	2,5	M4	20,9	16,5	11,6	10,4	2,3	7,5	18,2	14	3,5	7	4	3	4	5
K0644.0102305	A	7	22,5	26,5	M10	20	3	M5	25,4	19,8	14,2	13	2,3	6	17,4	15	3,5	8	4	3	4,5	10
K0644.0102705	A	7	26,5	30,5	M10	20	3	M5	25,4	19,8	14,2	13	2,3	6	17,4	15	3,5	8	4	3	4,5	10
K0644.0103106	A	9	30,5	38,5	M12	25	4	M6	30,3	23,1	14,2	11,9	4,6	7	21,9	20	3,5	10	8	3	4,5	17
K0644.0103906	A	11	38,5	46,5	M12	30	4	M6	34,2	27,2	17,8	15,5	4,6	7,5	22,5	20	4,5	10	8	6	6,5	17
K0644.0104706	A	11	46,5	54,5	M12	30	4	M6	34,2	27,2	18	15,7	4,6	7,5	22,5	20	6,5	10	8	6	6,5	17
K0644.0105508	A	15	54,5	70,5	M14x1,5	45	5	M8	49,9	40,6	23,7	19,1	9,3	9	24,5	32	6,5	13	16	6	8	43
K0644.0107108	A	17	70,5	86,5	M16x1,5	60	5	M8	55,4	46,1	28,3	23,7	9,3	10	29,4	20	6,5	13	16	6	10	43
K0644.0108708	A	25	86,5	102,5	M16x1,5	60	5	M10	61,6	51	30,2	25,7	9,3	10	29,4	25	6,5	17	16	6	12,5	79

KIPP Centring clamps with hexagon segments

Order No.	Form	A	D min.	D max.	D1	D2	D3	D4	H	H1	H2	H3	H4	L	L1	L2	M	K	SW	No. of hex	Clamping force max. kN	Tightening torque max. Nm
K0644.0201503	B	4,5	14,5	18,5	M6	12	2	M3	17,3	14,5	9,8	8,6	1,4	5,5	14,1	12	2,5	4	5,5	3	3,5	2
K0644.0201904	B	5,5	18,5	22,5	M8	15	2,5	M4	20,9	16,5	11,6	10,4	2,3	7,5	18,2	14	3,5	4	7	3	4	5
K0644.0202305	B	7	22,5	26,5	M10	20	3	M5	25,4	19,8	14,2	13	2,3	6	17,4	15	3,5	4	8	3	4,5	10
K0644.0202705	B	7	26,5	30,5	M10	20	3	M5	25,4	19,8	14,2	13	2,3	6	17,4	15	3,5	4	8	3	4,5	10
K0644.0203106	B	9	30,5	38,5	M12	25	4	M6	30,3	23,1	14,2	11,9	4,6	7	21,9	20	3,5	8	10	6	4,5	17
K0644.0203906	B	11	38,5	46,5	M12	30	4	M6	34,2	27,2	17,8	15,5	4,6	7,5	22,5	20	4,5	8	10	6	6,5	17
K0644.0204706	B	11	46,5	54,5	M12	30	4	M6	34,2	27,2	18	15,7	4,6	7,5	22,5	20	6,5	8	10	6	6,5	17
K0644.0205508	B	15	54,5	70,5	M14	45	5	M8	49,9	40,6	23,7	19,1	9,3	9	24,5	32	6,5	16	13	6	8	43
K0644.0207108	B	17	70,5	86,5	M16	60	5	M8	55,4	46,1	28,3	23,7	9,3	10	29,4	20	6,5	16	13	6	10	43
K0644.0208708	B	25	86,5	102,5	M16	60	5	M10	61,6	51	30,2	25,7	9,3	10	29,4	25	6,5	16	16	6	12,5	79

Centring clamps

round



Material:
Carbon steel.

Version:
Hardened (33–39 HRC) and black oxidised.

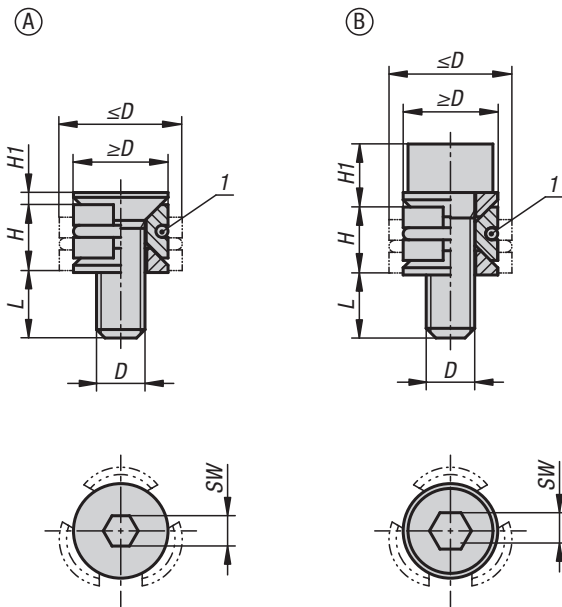
Sample order:
K1166.10804

Note:
The centring clamp enables a workpiece to be centred and clamped in the bore.
The wedges generate higher clamping forces.
The centring clamp is available with a cap screw or countersunk screw.
Centring clamp with pull-down effect.

Drawing reference:
Form A: with countersunk screw
Form B: with cap screw

Dimension H refers to the height at $\geq D$.
Dimension L refers to the length at $\leq D$

1) O-ring



KIPP Centring clamp round

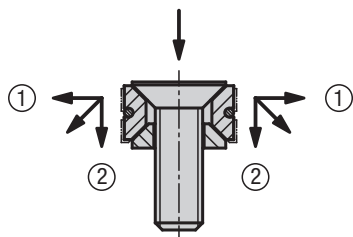
Order No.	Form	D	D min.	D max.	H	H1	L	SW	Clamping force max. kN	Tightening torque Nm
K1166.10804	A	M4 x 12	8	10,3	5,5	0,9	7,3	2,5	0,9	2,1
K1166.11005	A	M5X15	10	12,3	6,4	1,1	9,1	3	1,5	4,3
K1166.11206	A	M6X18	12	16,3	8,6	1,3	11,2	4	2,1	7,3
K1166.11608	A	M8X25	16	22	11,5	1,6	16,2	5	4	18
K1166.20804	B	M4 x 12	8	10,3	5,5	5,1	7,1	3	1,5	2,7
K1166.21005	B	M5X15	10	12,3	6,4	6,2	9	4	2,5	5,4
K1166.21206	B	M6X18	12	16,3	8,6	7,9	10,6	5	5	9,1
K1166.21608	B	M8X25	16	22	11,5	10,4	15,4	6	9	25

Centring clamps

round

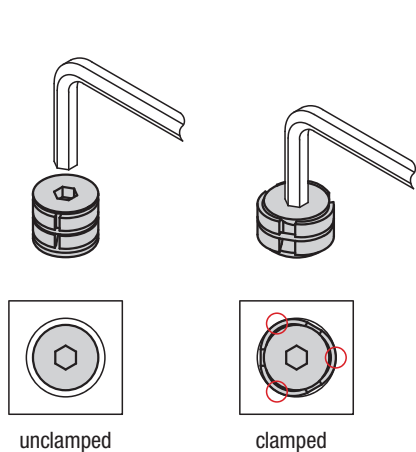
Technical information:

- These clamps grip the inside diameter of a workpiece.
- The wedge shape enables high clamping forces on the workpiece.



- (Jaws exert positive down force)
- ① Horizontal thrust against workpiece
 - ② Vertical thrust prevents the workpiece lifting

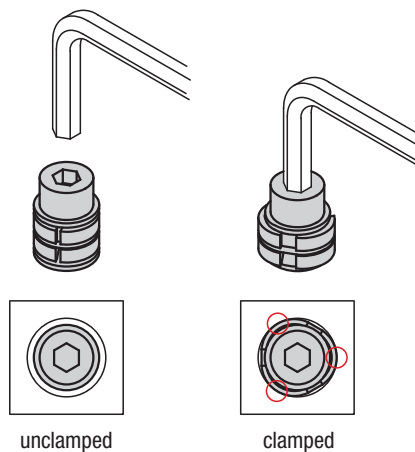
Form A:



unclamped

clamped

Form B:

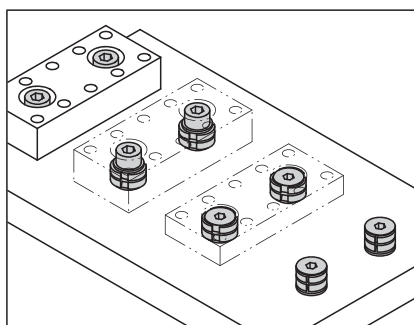


unclamped

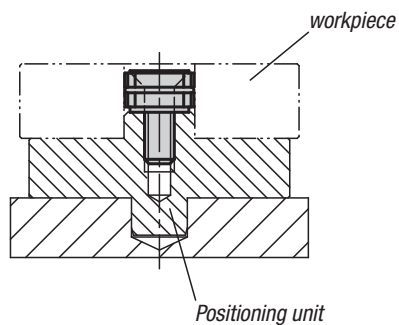
clamped

Note:

The clamp makes point contact with the bore wall when clamped.



For accurate repeat positioning use these clamps together with a positioning unit. Clamping is carried out with the centring clamp.

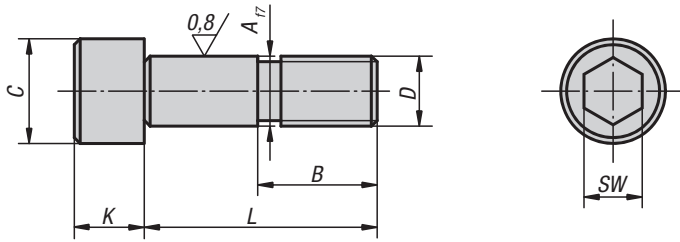


Locating elements



Shoulder screws

Form A



Material:
Carbon steel.

Version:
Tempered, black oxidised.
Precision diameters ground.

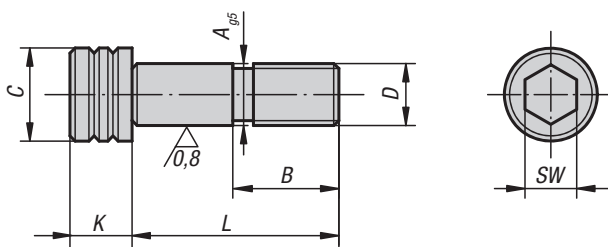
Sample order:
K0815.112045

KIPP Shoulder screws Form A

Order No.	Form	A	B	C	D	K	L	SW	Tightening torque max. Nm
K0815.112045	A	12	22	18	M12	12	45	10	88
K0815.112055	A	12	22	18	M12	12	55	10	88
K0815.112065	A	12	22	18	M12	12	65	10	88
K0815.112075	A	12	22	18	M12	12	75	10	88
K0815.116055	A	16	25	24	M16	16	55	14	216
K0815.116065	A	16	25	24	M16	16	65	14	216
K0815.116075	A	16	25	24	M16	16	75	14	216

Shoulder screws

Form B



Material:
Carbon steel.

Version:
Tempered, black oxidised.
Precision diameters ground.

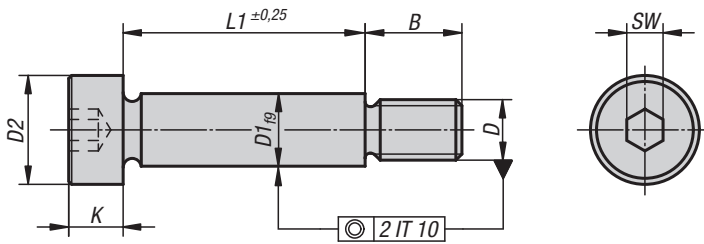
Sample order:
K0815.12065

KIPP Shoulder screws Form B

Order No.	Form	A	B	C	D	K	L	SW	Tightening torque max. Nm
K0815.12045	B	12	22	18	M12	12	45	10	88
K0815.12055	B	12	22	18	M12	12	55	10	88
K0815.12065	B	12	22	18	M12	12	65	10	88
K0815.12075	B	12	22	18	M12	12	75	10	88
K0815.16055	B	16	25	24	M16	16	55	14	216
K0815.16065	B	16	25	24	M16	16	65	14	216
K0815.16075	B	16	25	24	M16	16	75	14	216

Shoulder screws

similar to DIN ISO 7379



Material:

Steel or stainless steel (A 2)

Version:

Grade 12.9. Shaft OD ground and bright.
Bright stainless steel or tempered steel.

Sample order:

K0705.06X20 (include length L1)

Note:

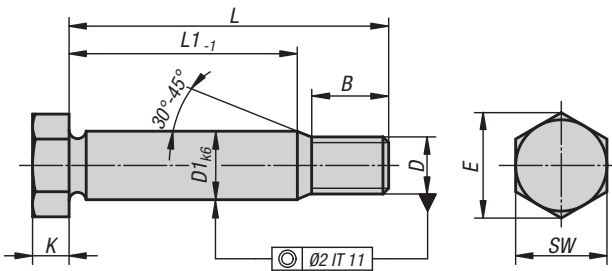
Hexagon socket head shoulder screws are precision construction elements for many applications. As they can simplify complicated constructions, they are frequently chosen as the most cost-effective solution. Shoulder screws provide the decisive rationalising effect required today.

KIPP Shoulder screws similar to DIN ISO 7379

Order No.	Main material	D1	D	D2	B	K	SW	L1
K0705.04X	steel	4	M3	7	7	3	2	6/8/10/12/16/20
K0705.05X	steel	5	M4	9	8 6	4	2,5	8/10/16/20/30/40
K0705.06X	steel	6	M5	10	9,5	4,5	3	16/20/25/30/40/50/60
K0705.08X	steel	8	M6	13	11	5,5	4	16/20/25/30/40/50/60
K0705.10X	steel	10	M8	16	13	7	5	16/20/25/30/40/50/60/70/80
K0705.12X	steel	12	M10	18	16	9	6	16/20/25/30/40/50/60/70/80/90/100
K0705.16X	steel	16	M12	24	18	11	8	30/40/50/60/70/80/90/100/120
K0705.20X	steel	20	M16	30	22	14	10	30/40/50/60/70/80/90/100/120
K0705.104X	stainless steel	4	M3	7	7	3	2	6/8/10/16/20
K0705.105X	stainless steel	5	M4	9	8 6	4	2,5	8/10/16/20/30/40
K0705.106X	stainless steel	6	M5	10	9,5	4,5	3	16/20/25/30/40/50/60
K0705.108X	stainless steel	8	M6	13	11	5,5	4	16/20/25/30/40/50/60
K0705.110X	stainless steel	10	M8	16	13	7	5	16/20/25/30/40/50/60/70/80
K0705.112X	stainless steel	12	M10	18	16	9	6	16/20/25/30/40/50/60/70/80/90/100
K0705.116X	stainless steel	16	M12	24	18	11	8	30/40/50/60/70/80/90/100/120
K0705.120X	stainless steel	20	M16	30	22	14	10	30/40/50/60/70/80/90/100/120

Shoulder screws

with hexagon head similar to DIN 609



Material:

Steel.

Version:

Grade 8.8, black oxidised.
Shaft OD ground.

Sample order:

K0706.09X40 (include length L)

Note:

Shoulder screws are used if the screw connection is subjected to transverse forces or if workpieces must be positioned relative to each other.

KIPP Shoulder screws with hexagon head, similar to DIN 609

Order No.	B	D1	D	E	K	L	L1	SW
K0706.09X25	14,5	9	M8	14,38	5,3	25	8	13
K0706.09X30	14,5	9	M8	14,38	5,3	30	13	13
K0706.09X35	14,5	9	M8	14,38	5,3	35	18	13
K0706.09X40	14,5	9	M8	14,38	5,3	40	23	13
K0706.09X45	14,5	9	M8	14,38	5,3	45	28	13
K0706.09X50	14,5	9	M8	14,38	5,3	50	33	13
K0706.09X60	16,5	9	M8	14,38	5,3	60	41	13
K0706.11X30	17,5	11	M10	17,77	6,4	30	10	17
K0706.11X35	17,5	11	M10	17,77	6,4	35	15	17
K0706.11X40	17,5	11	M10	17,77	6,4	40	20	17
K0706.11X45	17,5	11	M10	17,77	6,4	45	25	17
K0706.11X50	17,5	11	M10	17,77	6,4	50	30	17
K0706.11X60	19,5	11	M10	17,77	6,4	60	38	17
K0706.11X70	19,5	11	M10	17,77	6,4	70	48	17
K0706.11X80	19,5	11	M10	17,77	6,4	80	58	17
K0706.11X90	19,5	11	M10	17,77	6,4	90	68	17
K0706.11X100	19,5	11	M10	17,77	6,4	100	78	17

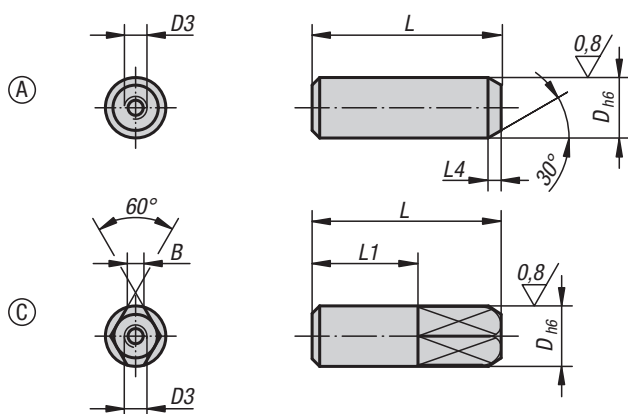
Shoulder screws

with hexagon head similar to DIN 609



Order No.	B	D1	D	E	K	L	L1	SW
K0706.13X35	20,5	13	M12	19,85	7,5	35	11,5	19
K0706.13X40	20,5	13	M12	19,85	7,5	40	16,5	19
K0706.13X45	20,5	13	M12	19,85	7,5	45	21,5	19
K0706.13X50	20,5	13	M12	19,85	7,5	50	26,5	19
K0706.13X60	22,5	13	M12	19,85	7,5	60	34,5	19
K0706.13X70	22,5	13	M12	19,85	7,5	70	44,5	19
K0706.13X80	22,5	13	M12	19,85	7,5	80	54,5	19
K0706.13X90	22,5	13	M12	19,85	7,5	90	64,5	19
K0706.13X100	22,5	13	M12	19,85	7,5	100	74,5	19
K0706.17X40	25	17	M16	26,17	10	40	11,5	24
K0706.17X45	25	17	M16	26,17	10	45	16,5	24
K0706.17X50	25	17	M16	26,17	10	50	21,5	24
K0706.17X60	27	17	M16	26,17	10	60	29,5	24
K0706.17X70	27	17	M16	26,17	10	70	39,5	24
K0706.17X80	27	17	M16	26,17	10	80	49,5	24
K0706.17X90	27	17	M16	26,17	10	90	59,5	24
K0706.17X100	27	17	M16	26,17	10	100	69,5	24
K0706.21X50	28,5	21	M20	32,95	12,5	50	17,5	30
K0706.21X60	30,5	21	M20	32,95	12,5	60	25,5	30
K0706.21X70	30,5	21	M20	32,95	12,5	70	35,5	30
K0706.21X80	30,5	21	M20	32,95	12,5	80	45,5	30
K0706.21X90	30,5	21	M20	32,95	12,5	90	55,5	30
K0706.21X100	30,5	21	M20	32,95	12,5	100	65,5	30
K0706.21X120	30,5	21	M20	32,95	12,5	120	85,5	30
K0706.25X60	36,5	25	M24	39,35	15	60	19	36
K0706.25X70	36,5	25	M24	39,35	15	70	29	36
K0706.25X80	36,5	25	M24	39,35	15	80	39	36
K0706.25X90	36,5	25	M24	39,35	15	90	49	36
K0706.25X100	36,5	25	M24	39,35	15	100	59	36
K0706.25X120	36,5	25	M24	39,35	15	120	79	36

Removable locating pins Forms A and C



Material:
Tool steel.

Version:
Hardened and ground (HRC 56 +2).

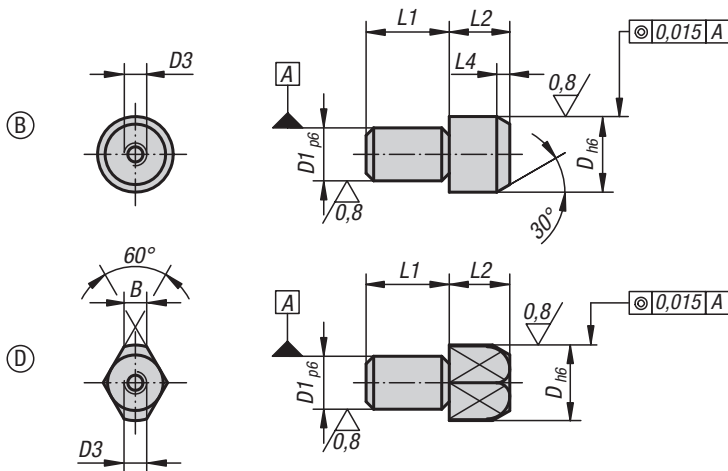
Sample order:
K0817.12

Note:
The locating pins can be easily removed with an extractor.

KIPP Locating pins Form A and C

Order No. Form A	Order No. Form C	D	D3	L	L1	L4	B
K0817.08	K0817.082	8	M3	25	-/14	3/-	-/2,2
K0817.10	K0817.102	10	M3	30	-/17	3/-	-/3
K0817.12	K0817.122	12	M5	34	-/20	4/-	-/3,5
K0817.16	K0817.162	16	M5	42	-/26	4/-	-/5
K0817.20	K0817.202	20	M5	47	-/30	5/-	-/6
K0817.25	K0817.252	25	M5	49	-/30	5/-	-/8

Removable locating pins Forms B and D



Material:

Tool steel.

Version:

Hardened and ground (HRC 55-60).

Sample order:

K0818.20

Note:

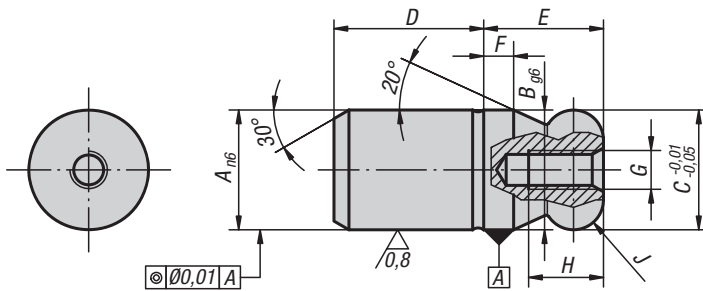
Locating pins can be easily removed with an extractor.

KIPP Locating pins Form B and D

Order No. Form B	Order No. Form D	D	D1	D3	L1	L2	L4	B
K0818.10	K0818.102	10	7	M3	11	11	3	-/3
K0818.12	K0818.122	12	8	M5	13	12	4	-/3,5
K0818.16	K0818.162	16	12	M5	18	14	4,5	-/5
K0818.20	K0818.202	20	14	M5	22	15	5	-/6
K0818.22	K0818.222	22	16	M5	22	17	5	-/7
K0818.25	K0818.252	25	18	M5	25	17	5	-/8

Locating pins

with ball-end Form A



Material:

Tool steel or 1.4305 stainless steel.

Version:

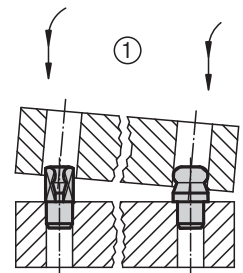
Steel hardened and ground.
Stainless steel ground and kolsterised.

Sample order:

K0350.12

Note:

Ball end locating pins are specially designed to ease the locating process. The tendency to jam, caused by the locating hole not being at right angles to the pin or by the pushing force not being parallel to the pin axis, is minimized by the ball-end form (see illustration 1 for K0351 Form B)

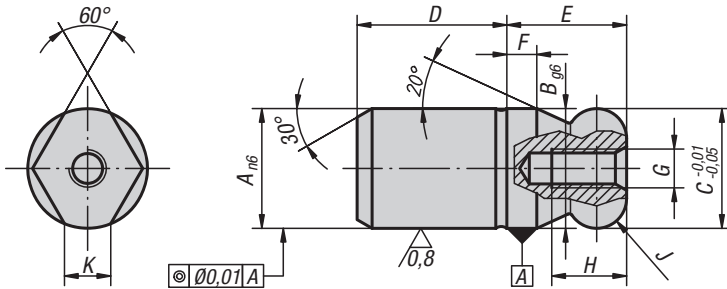


KIPP Locating pins with ball-end Form A

Order No. tool steel	Order No. stainless steel	A	B	C	D	E	F	G	H	J
K0350.05	K0350.505	5	5	5	6	5	2	M2,5	4,5	R 1
K0350.06	K0350.506	6	6	6	8	6	2	M3	5	R 1
K0350.08	K0350.508	8	8	8	10	8	2	M3	6	R 2
K0350.10	K0350.510	10	10	10	13	10	2,5	M3	6	R 2,5
K0350.12	K0350.512	12	12	12	15	12	3	M4	8	R 3
K0350.14	K0350.514	14	14	14	17	14	3,5	M4	8	R 3,5
K0350.16	K0350.516	16	16	16	20	16	4	M5	10	R 4
K0350.20	K0350.520	20	20	20	25	20	5	M5	10	R 5
K0350.25	-	25	25	25	25	25	6	M5	10	R 6
K0350.30	-	30	30	30	30	30	8	M6	12	R 8
K0350.40	-	40	40	40	40	40	10	M6	12	R 10
K0350.50	-	50	50	50	50	50	12	M6	12	R 12

Locating pins

with flattened ball-end Form C



Material:

Tool steel or 1.4305 stainless steel.

Version:

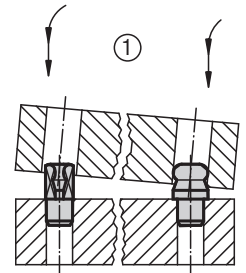
Steel hardened and ground.
Stainless steel ground and kolsterised.

Sample order:

K0350.162

Note:

Ball end locating pins are specially designed to ease the locating process. The tendency to jam, caused by the locating hole not being at right angles to the pin or by the pushing force not being parallel to the pin axis, is minimized by the ball-end form (see illustration 1 for K0351 Form B)

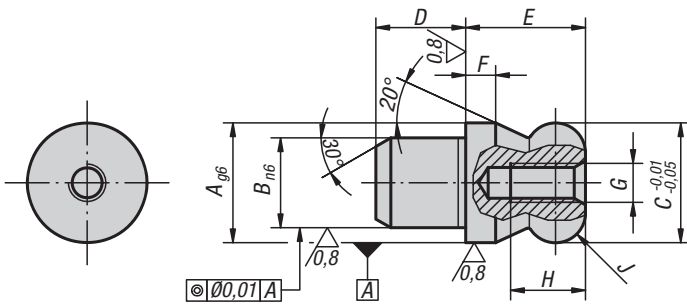


KIPP Locating pins with flattened ball-end Form C

Order No. tool steel	Order No. stainless steel	A	B	C	D	E	F	G	H	J	K
K0350.052	K0350.5052	5	5	5	6	5	2	M2,5	4,5	R 1	1,5
K0350.062	K0350.5062	6	6	6	8	6	2	M3	5	R 1	1,8
K0350.082	K0350.5082	8	8	8	10	8	2	M3	6	R 2	1,9
K0350.102	K0350.5102	10	10	10	13	10	2,5	M3	6	R 2,5	2,5
K0350.122	K0350.5122	12	12	12	15	12	3	M4	8	R 3	2,5
K0350.142	K0350.5142	14	14	14	17	14	3,5	M4	8	R 3,5	3,9
K0350.162	K0350.5162	16	16	16	20	16	4	M5	10	R 4	4,3
K0350.202	K0350.5202	20	20	20	25	20	5	M5	10	R 5	5
K0350.252	-	25	25	25	25	25	6	M5	10	R 6	5,6
K0350.302	-	30	30	30	30	30	8	M6	12	R 8	8,8
K0350.402	-	40	40	40	40	40	10	M6	12	R 10	12,8
K0350.502	-	50	50	50	50	50	12	M6	12	R 12	16,7

Locating pins

with ball-end Form B



Material:

Tool steel or 1.4305 stainless steel.

Version:

Steel hardened and ground.

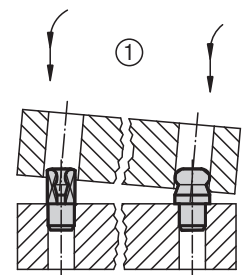
Stainless steel ground and kolsterised.

Sample order:

K0351.20

Note:

Ball end locating pins are specially designed to ease the locating process. The tendency to jam, caused by the locating hole not being at right angles to the pin or by the pushing force not being parallel to the pin axis, is minimized by the ball-end form (see illustration).

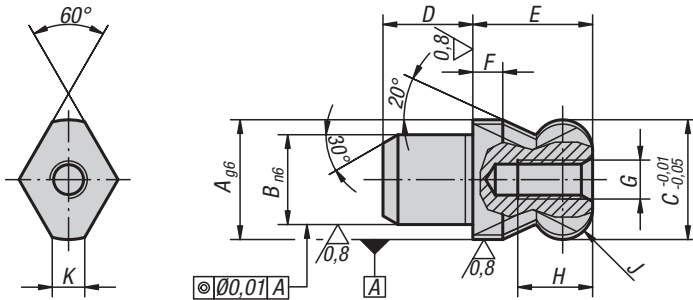


KIPP Locating pins with ball-end Form B

Order No. tool steel	Order No. stainless steel	A	B	C	D	E	F	G	H	J
K0351.06	K0351.506	6	4	6	4	6	2	M2,5	4,5	R 1
K0351.08	K0351.508	8	6	8	6	8	2	M3	6	R 2
K0351.10	K0351.510	10	7	10	7	10	2,5	M3	6	R 2,5
K0351.12	K0351.512	12	8	12	8	12	3	M4	8	R 3
K0351.14	K0351.514	14	10	14	10	14	3,5	M4	8	R 3,5
K0351.16	K0351.516	16	12	16	12	16	4	M5	10	R 4
K0351.20	K0351.520	20	14	20	14	20	5	M5	10	R 5
K0351.22	-	22	16	22	16	22	5,5	M5	10	R 5,5
K0351.25	-	25	18	25	18	25	6	M5	10	R 6

Locating pins

with flattened ball-end Form D



Material:

Tool steel or 1.4305 stainless steel.

Version:

Steel hardened and ground.

Stainless steel ground and kolsterised.

Sample order:

K0351.162

Note:

Ball end locating pins are specially designed to ease the locating process. The tendency to jam, caused by the locating hole not being at right angles to the pin or by the pushing force not being parallel to the pin axis, is minimized by the ball-end form (see illustration 1 for K0351 Form B)

KIPP Locating pins with flattened ball-end Form D

Order No. tool steel	Order No. stainless steel	A	B	C	D	E	F	G	H	J	K
K0351.062	K0351.5062	6	4	6	4	6	2	M2,5	4,5	R 1	1,7
K0351.082	K0351.5082	8	6	8	6	8	2	M3	6	R 2	2
K0351.102	K0351.5102	10	7	10	7	10	2,5	M3	6	R 2,5	2,5
K0351.122	K0351.5122	12	8	12	8	12	3	M4	8	R 3	2,5
K0351.142	K0351.5142	14	10	14	10	14	3,5	M4	8	R 3,5	3,76
K0351.162	K0351.5162	16	12	16	12	16	4	M5	10	R 4	4,3
K0351.202	K0351.5202	20	14	20	14	20	5	M5	10	R 5	5
K0351.222	-	22	16	22	16	22	5,5	M5	10	R 5,5	5
K0351.252	-	25	18	25	18	25	6	M5	10	R 6	5,6

Locating pins

with internal thread



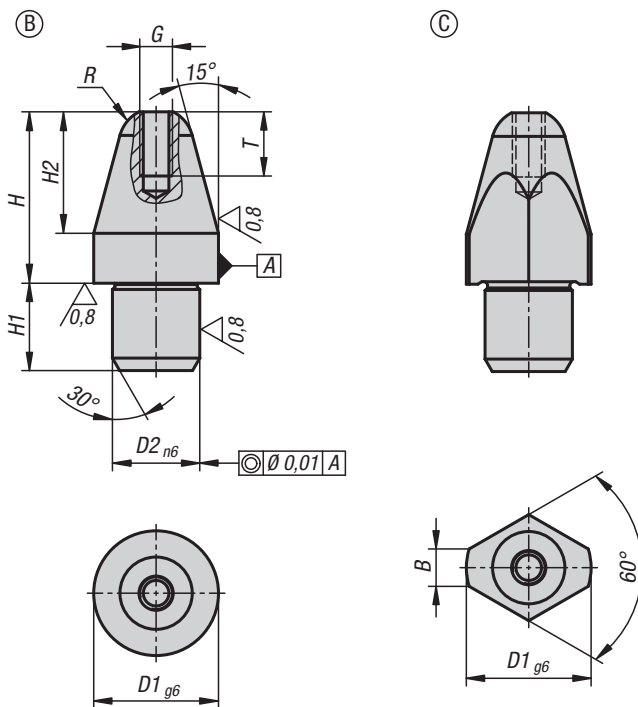
Material:
Steel.

Version:
Hardened and ground (HRC 60 ±2).

Sample order:
K1094.208

Note:
Locating pins are specially designed to ease the locating process. When used in conjunction with the hardened locating bushes K1095, they allow for a rapid, precise and low-wear workpiece exchange.

Drawing reference:
Form B: cylindrical pin
Form C: rhomboid pin



KIPP Locating pins, short

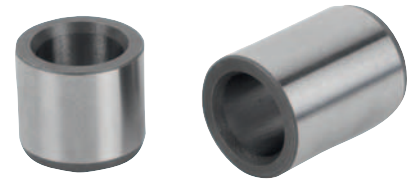
Order No. Form B	Order No. Form C	Version 1	D1	D2	G	H	H1	H2	R	B	T
K1094.208	K1094.408	short	8	6	M2,5	11,4	6	7,4	2,5	-/2,5	5
K1094.210	K1094.410	short	10	7	M2,5	13,7	7	9,7	3	-/3,0	5
K1094.212	K1094.412	short	12	8	M3	16	8	12	3,5	-/3,5	6
K1094.216	K1094.416	short	16	12	M4	20	12	15	5	-/5	8
K1094.220	K1094.420	short	20	14	M5	25,5	14	19,5	6	-/6	10

KIPP Locating pins, long

Order No. Form B	Order No. Form C	Version 1	D1	D2	G	H	H1	H2	R	B	T
K1094.308	K1094.508	long	8	6	M2,5	17,4	6	7,4	2,5	-/2,5	5
K1094.310	K1094.510	long	10	7	M2,5	21,7	7	9,7	3	-/3,0	5
K1094.312	K1094.512	long	12	8	M3	24	8	12	3,5	-/3,5	6
K1094.316	K1094.516	long	16	12	M4	29	12	15	5	-/5	8
K1094.320	K1094.520	long	20	14	M5	35,5	14	19,5	6	-/6	10

Locating bushes

for locating pins



Material:

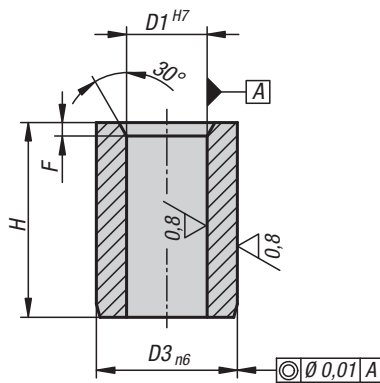
Steel.

Version:

Hardened and ground (HRC 60 ±2).

Sample order:

K1095.0812



KIPP Locating bushes for locating pins

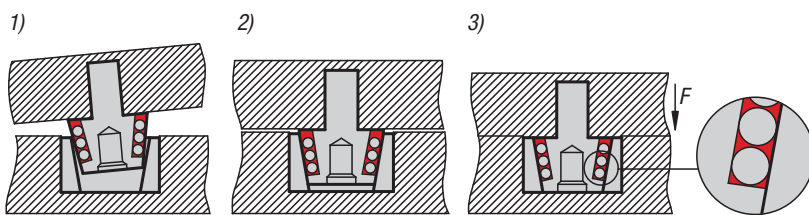
Order No.	Version 1	D1	D3	F	H
K1095.0812	short	8	12	1,2	12
K1095.1014	short	10	15	1,5	14
K1095.1216	short	12	18	1,5	16
K1095.1620	short	16	26	1,5	20
K1095.2026	short	20	30	2,5	26
K1095.0818	long	8	12	1,2	18
K1095.1022	long	10	15	1,5	22
K1095.1224	long	12	18	1,5	24
K1095.1630	long	16	26	1,5	30
K1095.2036	long	20	30	2,5	36

Technical note for centring unit



Functional description

- 1) To join two plates fitted with the centring unit, the cone is simply positioned into the bush.
- 2) The balls on the cone are now in light contact with the inner surface of the bush, but there is still a small gap between the two plates.
- 3) When a down force (F) is applied, the precision balls in the rubber jacket are pressed onto the surface of the cone and the surfaces of the two plates align with each other. The metal conical surfaces of the bush and cone both have the same overall hardness and can only deform within their elastic limit where the precision balls make contact. So the balls cannot damage the surfaces. Due to the prevailing balance of forces, the cone always strives to align itself with the centre of the bush. This centre alignment means that the component is always positioned precisely and with high repeat precision in the axis.



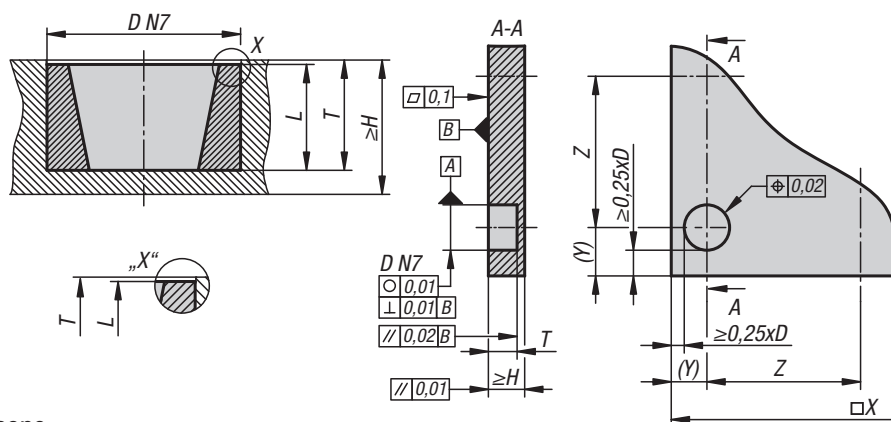
- Temperature differences of up to 30 K can be compensated for
- The rubber does not embrittle and is insensitive to dirt or swarf
- Embedded swarf splinters do not effect the system
- Ester-based or antifreeze coolants should be avoided
- Some form of undercut should be added to the receiving hole so that the bush can be pulled out and replaced

Centring unit in detail

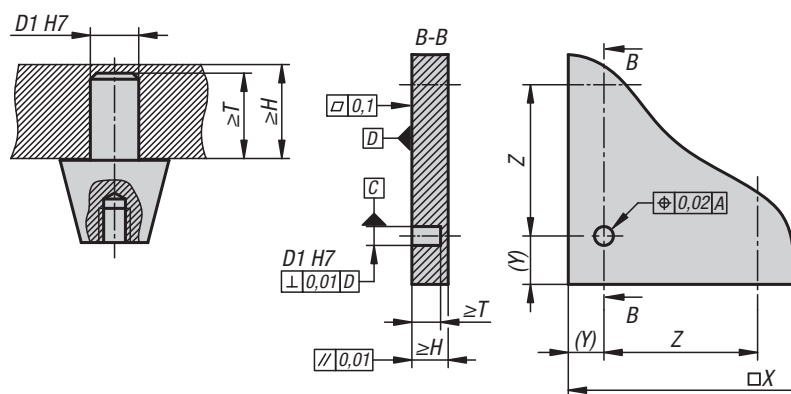
Description	
<p>1 Cone</p> <p>2 Bush</p> <p>3 Positioning diameter for easy assembly</p> <p>4 Lead-in chamfer for easy assembly</p> <p>5 Rubber for holding the precision balls</p> <p>6 Precision balls as centring element</p> <p>7 Tapped hole for removing the cone</p> <p>8 Undercut for flat-parallel installation of the cone</p> <p>9 Lead-in chamfer for easy assembly</p>	

Mounting dimensions

bush

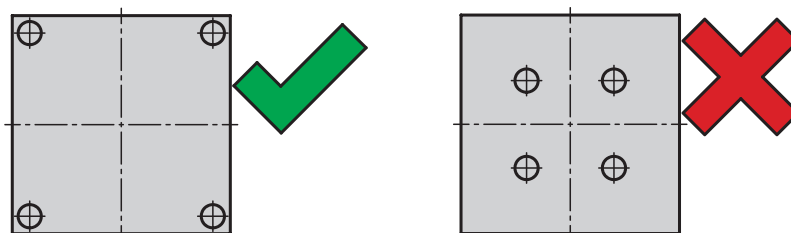


cone



component	bush		cone	
	1	3	1	3
Size				
D (bore diameter)	16 ^{H7}	32 ^{H7}		
L (bush length)	8,5	17,5		
T (bore depth)	9-0,1	18-0,1		
≥H (plate thickness)	12,5	25		
D1 (bore diameter)			6 ^{H7}	10 ^{H7}
≥T (bore depth)			9	18
≥H (plate thickness)			12	21

To obtain the best possible alignment of the two workpieces, the centring units should be positioned as far apart as possible.

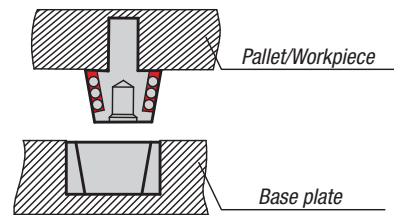


Minimum down force exerted by a retraction mechanism (e.g. bolts)

Size	1		3	
Number of centring units	1	4	1	4
Minimum down force (kN)	1,5	6	1,5	10

The down force applied by the retraction mechanism must be taken up by the components, as the centring units are only designed for centring, not taking up forces. Application of the minimum down force creates a frictional bond between the two components, leaving the centring units free from lateral forces.

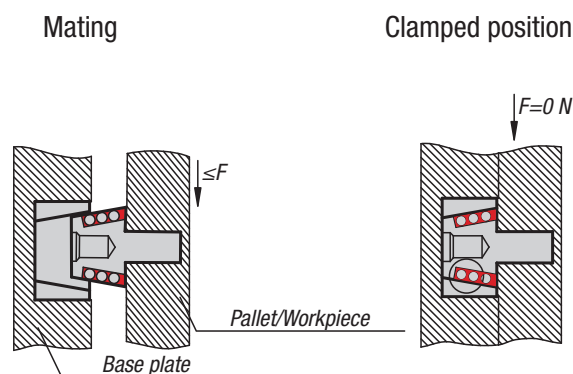
- The maximum working temperature is +80 °C
- Generally, the bush is pressed into the baseplate and the cone is pressed into a pallet or the workpiece
- The maximum centre offset between bush and cone should not exceed 3 mm when mating



Special aspects for horizontal mounting

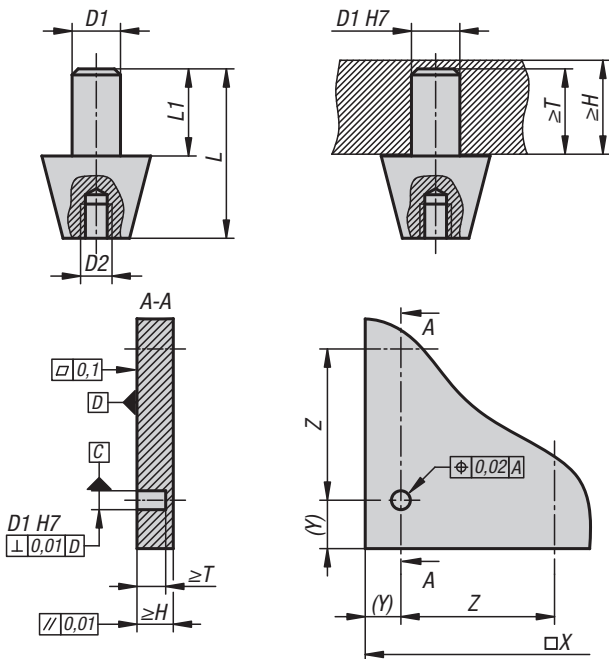
The same mounting dimensions apply as for vertical mounting. Since the workpieces take up the lateral forces when clamped by a down force, the centring units are left free of lateral forces. However, during pallet changes or when mating workpieces the centring units should only be subjected to the following maximum lateral forces:

Size	1		3	
Number of centring units	1	4	1	4
Lateral force F_{max} (N)	35		250	



Positioning cones, steel,

for centring units



Material:

Cone, steel.
Balls, ball bearing steel.

Version:

Cone hardened and ground.
Balls embedded in rubber which is vucanised on the cones.

Sample order:

K1627.3

Note:

In conjunction with the position bushings, the position cones form a centring unit for the high-precision positioning of two components. The system achieves a repeat accuracy of <0.003 mm. The bonded rubber does not become brittle and is insensitive to contamination or swarf. Small embedded swarf splinters do not effect the system.

Temperature range:

+80°C.

Functional principle:

When the positioning cone and bush are mated, the balls are pressed together within the rubbers elastic range and thus locate the two parts in which they have been fitted, with maximum accuracy. To ensure that the rubber in which the balls are embedded is deformed within the elastic range, one must merely ensure that the depth of the hole into which the positioning bush is later pressed is precisely observed. The positioning cone is supplied ready to fit into the positioning bush and must simply be fitted into the counterpart component. Henceforth, a precise zero point positioning system is in place.

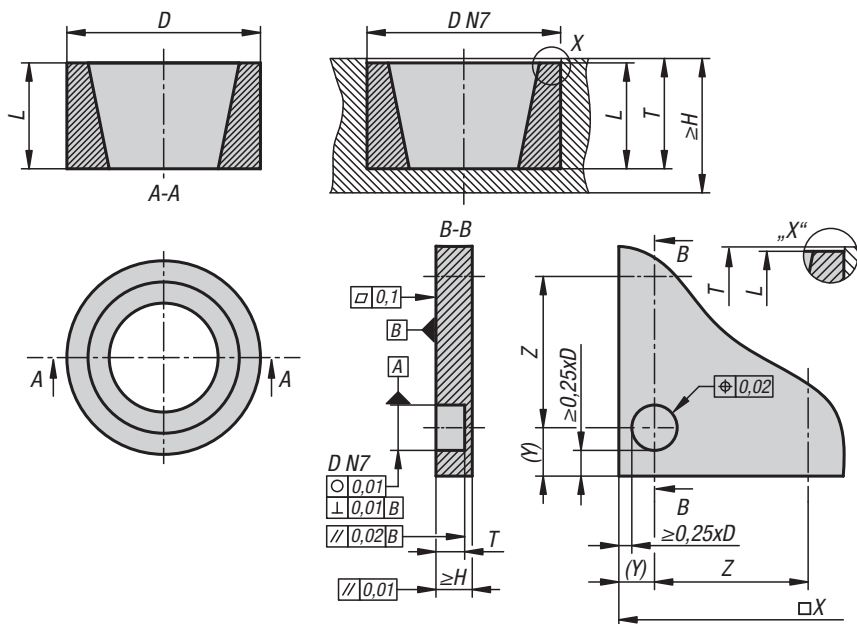


KIPP Cone centring unit

Order No.	Size	D1	D2	H min.	L max.	L1	T min.	for Art. No.
K1627.1	1	6	M4	12	17,5	9	9	K1628.1
K1627.3	3	10	M8	21	35	18	18	K1628.3

Positioning bush steel

for centring units



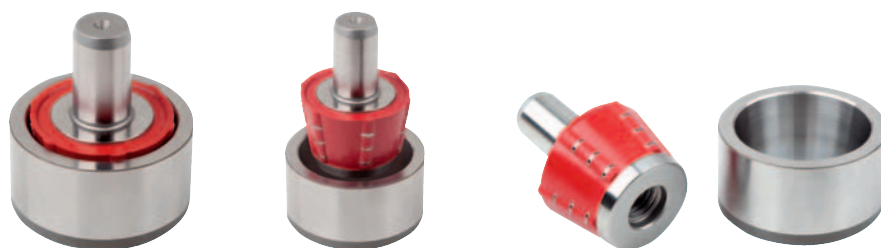
Material:
Steel.

Version:
Hardened and ground.

Sample order:
K1628.3

Note:
These positioning bushes match positioning cones.

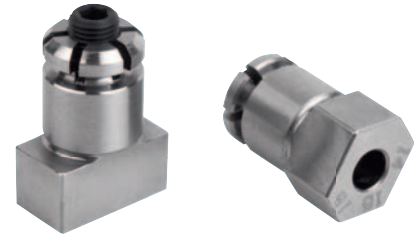
Temperature range:
+80°C.



KIPP Bush centring unit

Order No.	Size	D	H min.	L max.	T	for Art. No.
K1628.1	1	16	12,5	8,5	9-0,1	K1627.1
K1628.3	3	32	25	17,5	18-0,1	K1627.3

Locating pins expanding



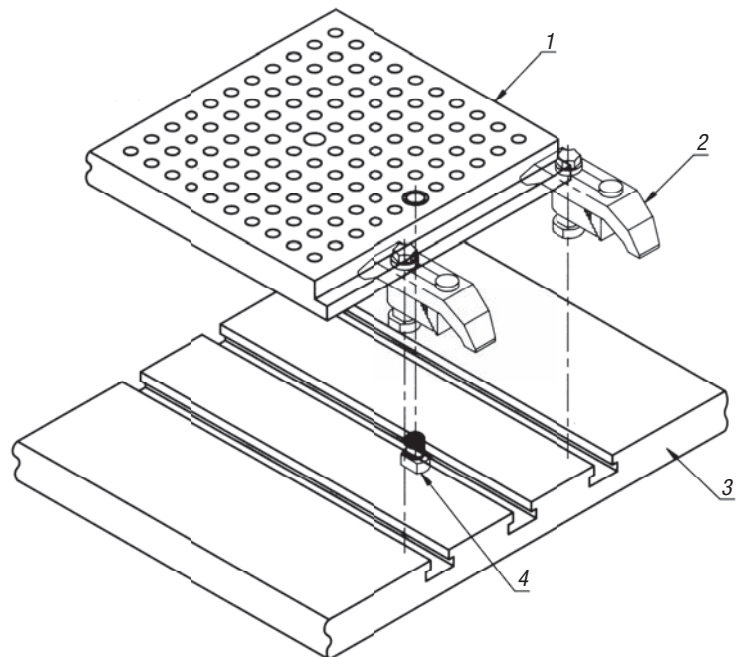
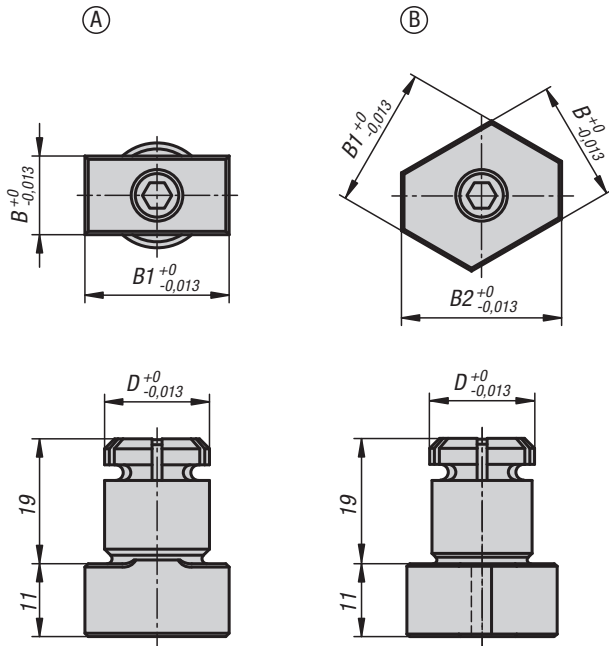
Material:
Carbon steel.

Version:
Tempered and black oxidised.
Locating diameter and guide faces ground.

Sample order:
K0356.1610

Note:
These expanding locating pins enable e.g. tooling plates to be positioned in the T-slots of machine tables (see illustration).
The plates to be positioned must have two holes matching the expanding pin diameter.
The expansion screw has a broached through hexagonal hole allowing the pin to be tightened or loosened from two sides.

Drawing reference:
1) tooling plate
2) clamp straps
3) machine table
4) expanding locating pin



KIPP Locating pins, expanding

Order No.	Form	D	B	B1	B2	Recommended \emptyset
K0356.1610	A	16	10	20	-	16,01 \pm 0,01
K0356.1612	A	16	12	22	-	16,01 \pm 0,01
K0356.1614	B	16	14	16	18	16,01 \pm 0,01
K0356.2024	B	20	24	28	32	20,01 \pm 0,01

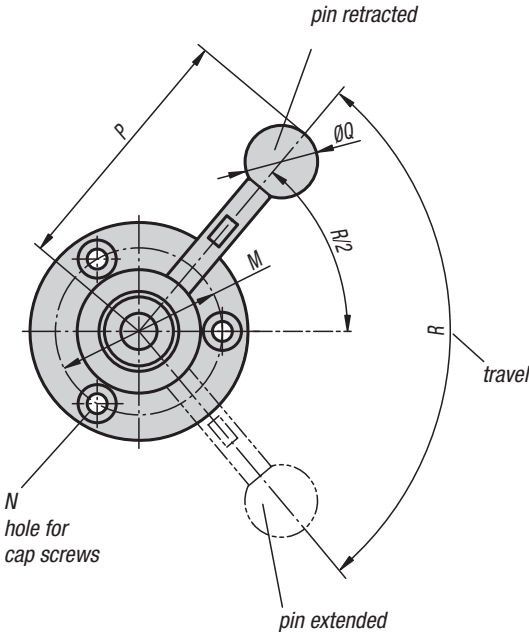
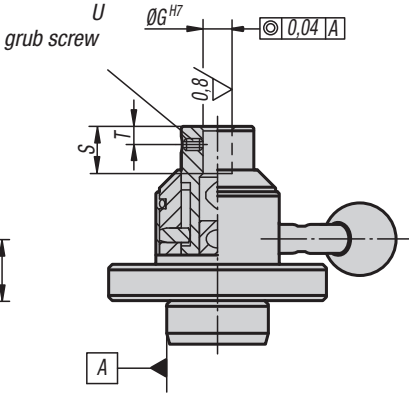
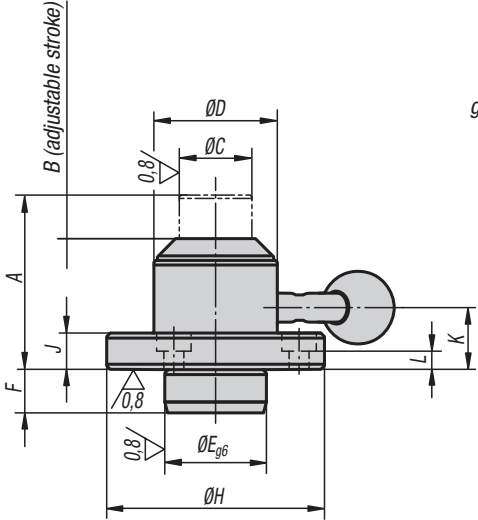
Positioning units



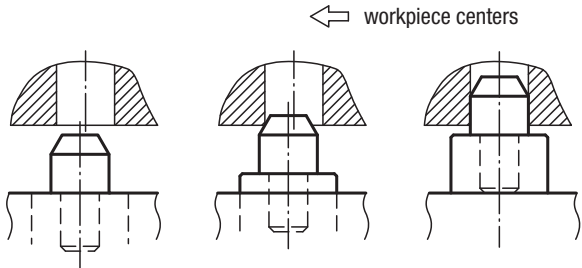
Material, version:
 Body and locating pin carbon steel, tempered and black oxidised.
 Handle carbon steel, tempered.
 Ball knob black thermoset PF 31.

Sample order:
 K0918.2808

Note:
 * Admissible hand force for the handle.
 ** Workpieces up to this weight can be located.

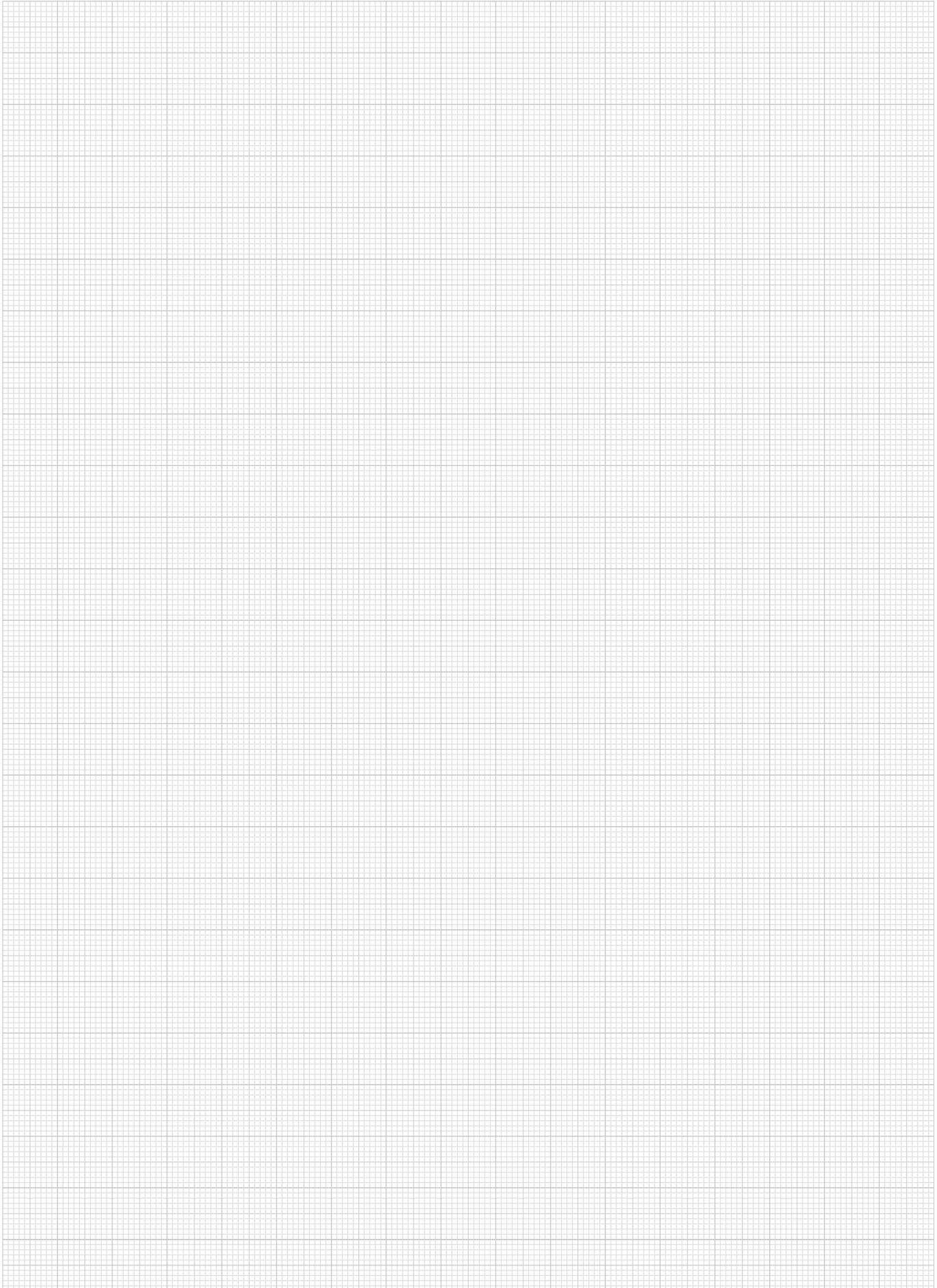


- 1. roughly position
- 2. raise pin
- 3. located

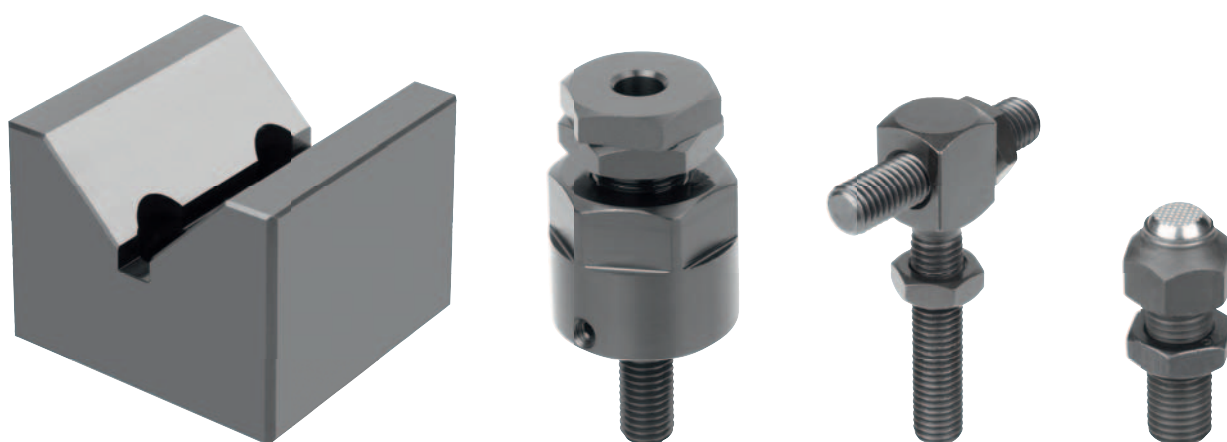


KIPP Positioning units

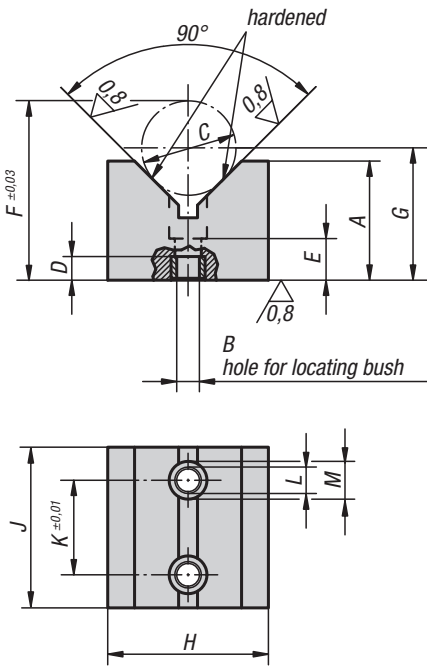
Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	Hand force FH N	Max. workpiece weight kg
K0918.2808	48	12	20	34	28	12	8	60	10	17	5	46	M5	71	20	100	13	5	M4x5	150*	250**
K0918.4212	61	15	30	48	42	14	12	80	13	23	7	63	M6	94	25	90	15	8	M6x8	200*	300**



Rest and stop elements



V-blocks, vertical



Material:
Carbon steel.

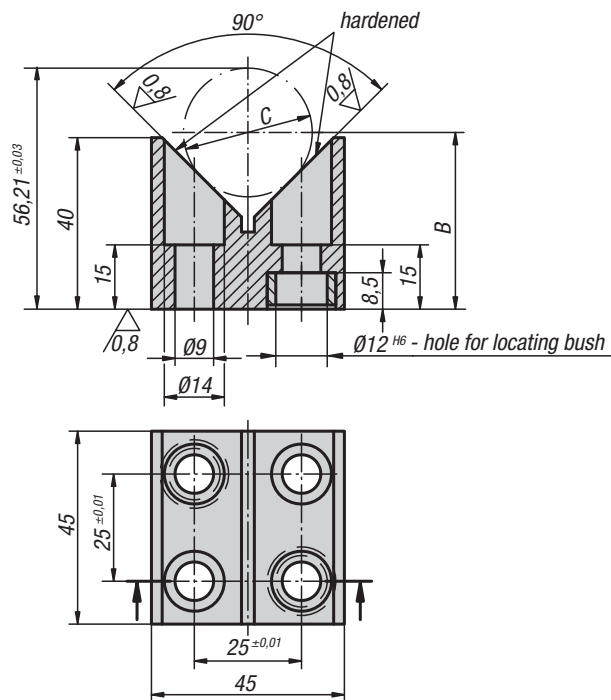
Version:
Black oxidised.
Prism and contact faces ground.

Sample order:
K0819.60008032

KIPP V-blocks vertical

Order No.	A	B Ø for locating bush	C min.	C max.	C Test-Ø	D	E	F	G	H	J	K	L	M
K0819.60008032	32	12 H6	10	25	15±0,003	8,5	13	40,1	-	25	45	25	9	14

V-blocks, vertical



Material:
Carbon steel.

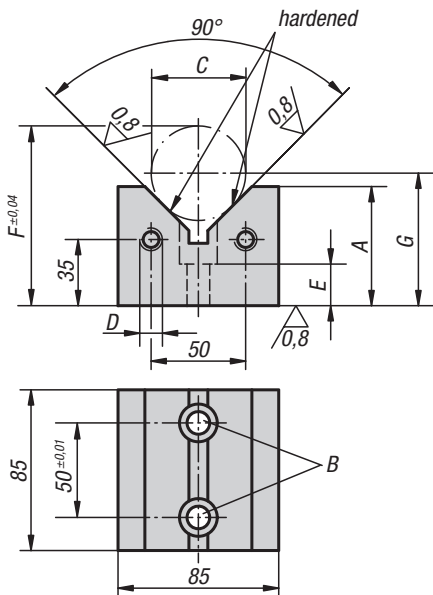
Version:
Black oxidised.
Prism and contact faces ground.

Sample order:
K0819.60008040

KIPP V-blocks vertical

Order No.	C min.	C max.	C Test-Ø	B
K0819.60008040	15	50	30±0,003	-

V-blocks, vertical



Material:
Carbon steel.

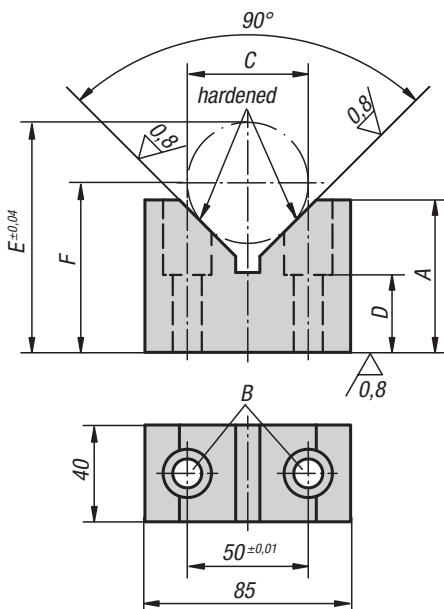
Version:
Black oxidised.
Prism and contact faces ground.

Sample order:
K0819.60012063

KIPP V-blocks vertical

Order No.	A	B Ø for shoulder screw	C min.	C max.	C Test-Ø	D	E	F	G	Suitable shoulder screw
K0819.60012063	63	12 F7	15	80	50±0.003	M12	22	95,071	-	K0815.112055
K0819.60012075	75	12 F7	15	100	70±0.003	M12	22	124,142	-	K0815.112055
K0819.60016063	63	16 F7	15	80	50±0.003	M16	25	95,071	-	K0815.116065
K0819.60016075	75	16 F7	15	100	70±0.003	M16	25	124,142	-	K0815.116065

V-blocks, vertical



Material:
Carbon steel.

Version:
Black oxidised.
Prism and contact faces ground.

Sample order:
K0819.60512063

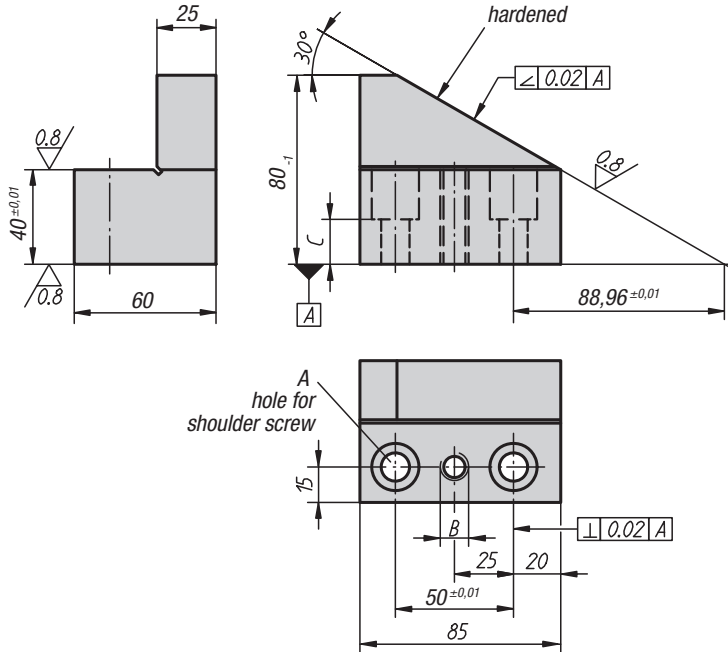
KIPP V-blocks, vertical

Order No.	A	B Ø for shoulder screw	C min.	C max.	C Test-Ø	D	E	F	Suitable shoulder screw
K0819.60512063	63	12 F7	15	80	50±0,003	32	95,071	$C/2 \times \sqrt{2} + 34,716$	K0815.112065
K0819.60512075	75	12 F7	15	100	70±0,003	32	124,142	$C/2 \times \sqrt{2} + 39,645$	K0815.112065
K0819.60516063	63	16 F7	15	80	50±0,003	25	95,071	$C/2 \times \sqrt{2} + 34,716$	K0815.116065
K0819.60516075	75	16 F7	15	100	70±0,003	25	124,142	$C/2 \times \sqrt{2} + 39,645$	K0815.116065

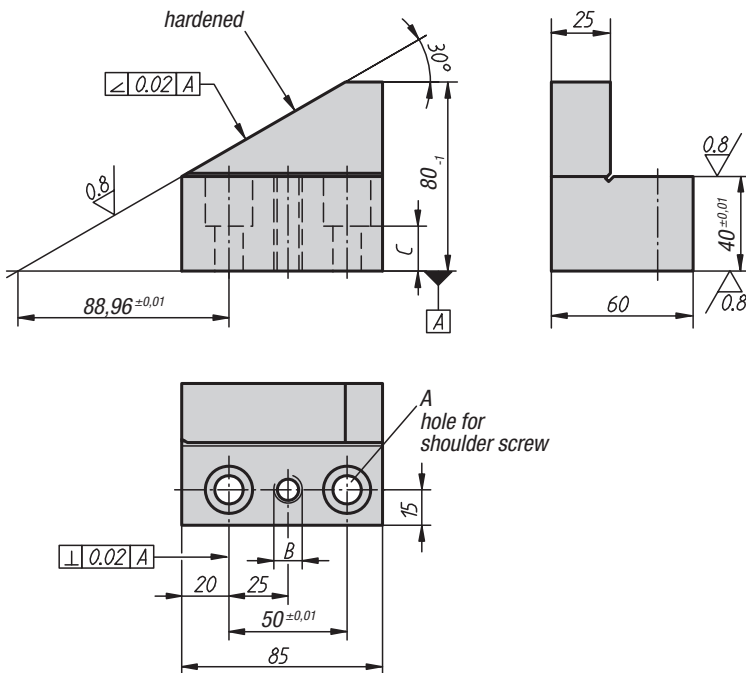
V-blocks split



right hand



left hand

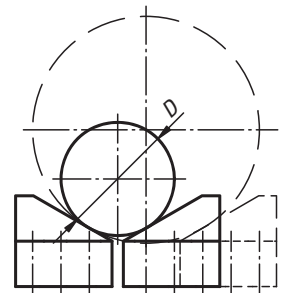


Material:
Carbon steel.

Version:
Black oxidised.
Half prism (30°) and contact faces ground.

Sample order:
K0819.6301230

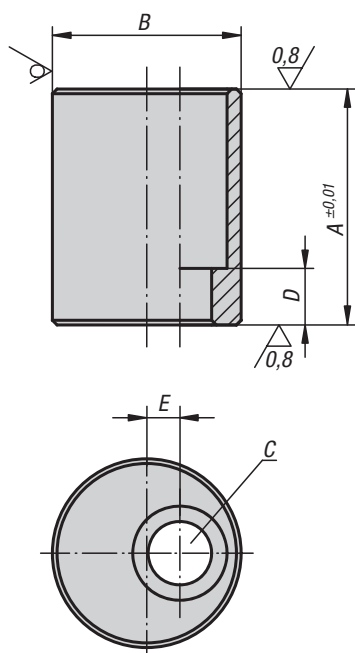
Note:
Right-hand and left-hand split V-blocks are used for positioning round parts. Split V-blocks permit adjustment to the respective workpiece diameter.



KIPP V-blocks split

Order No. right	Order No. left	A	B	C	D min.	D max.	Suitable shoulder screw
K0819.6301230	K0819.6311230	12 F7	M12	23	50	600	K0815.112055
K0819.6301630	K0819.6311630	16 F7	M16	20	50	600	K0815.116055

Eccentric supports



Material:
Special steel alloy.

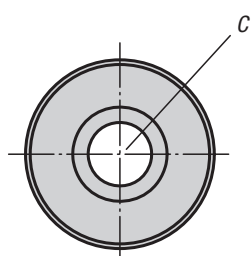
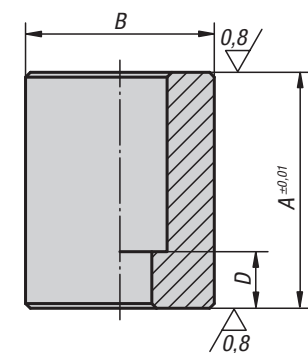
Version:
Tempered, black oxidised.
Contact faces ground.

Sample order:
K0822.10040

KIPP Eccentric supports

Order No.	A	B	C hole for DIN 912 cap screw	D	E
K0822.08016	16	25	M8	7	3,5
K0822.08020	20	25	M8	7	3,5
K0822.08025	25	25	M8	7	3,5
K0822.08032	32	25	M8	7	3,5
K0822.08040	40	25	M8	7	3,5
K0822.08050	50	25	M8	7	3,5
K0822.10020	20	32	M10	9	5
K0822.10025	25	32	M10	9	5
K0822.10032	32	32	M10	9	5
K0822.10040	40	32	M10	9	5
K0822.10050	50	32	M10	9	5
K0822.10063	63	32	M10	9	5
K0822.12020	20	40	M12	7	7
K0822.12025	25	40	M12	12	7
K0822.12032	32	40	M12	12	7
K0822.12040	40	40	M12	12	7
K0822.12050	50	40	M12	12	7
K0822.12063	63	40	M12	12	7
K0822.12080	80	40	M12	22	7
K0822.12100	100	40	M12	22	7
K0822.12125	125	40	M12	22	7
K0822.16025	25	50	M16	8	10
K0822.16032	32	50	M16	15	10
K0822.16040	40	50	M16	15	10
K0822.16050	50	50	M16	15	10
K0822.16063	63	50	M16	15	10
K0822.16080	80	50	M16	35	10
K0822.16100	100	50	M16	35	10
K0822.16125	125	50	M16	35	10

Supports



Material:
Carbon steel.

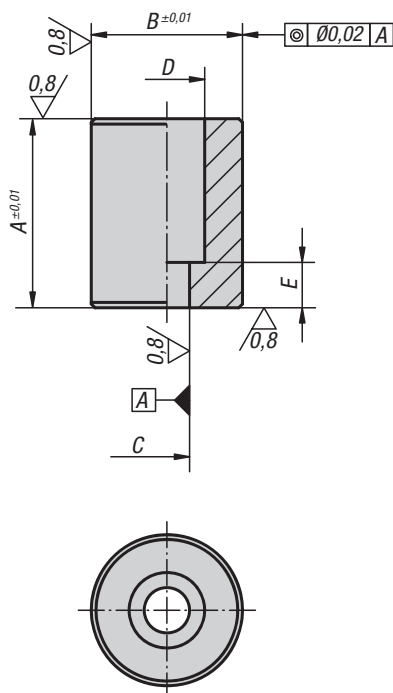
Version:
Tempered, black oxidised.
Contact faces ground.

Sample order:
K0823.08016

KIPP Supports

Order No.	A	B	C hole for DIN 912 cap screw	D
K0823.08016	16	25	M8	7
K0823.08020	20	25	M8	7
K0823.08025	25	25	M8	7
K0823.08032	32	25	M8	7
K0823.08040	40	25	M8	7
K0823.08050	50	25	M8	7
K0823.10020	20	32	M10	9
K0823.10025	25	32	M10	9
K0823.10032	32	32	M10	9
K0823.10040	40	32	M10	9
K0823.10050	50	32	M10	9
K0823.10063	63	32	M10	9
K0823.12020	20	40	M12	7
K0823.12025	25	40	M12	12
K0823.12032	32	40	M12	12
K0823.12040	40	40	M12	12
K0823.12050	50	40	M12	12
K0823.12063	63	40	M12	12
K0823.12080	80	40	M12	22
K0823.12100	100	40	M12	22
K0823.16025	25	50	M16	8
K0823.16032	32	50	M16	15
K0823.16040	40	50	M16	15
K0823.16050	50	50	M16	15
K0823.16063	63	50	M16	15
K0823.16080	80	50	M16	35
K0823.16100	100	50	M16	35
K0823.16125	125	50	M16	35

Locating supports



Material:

Carbon steel.

Version:

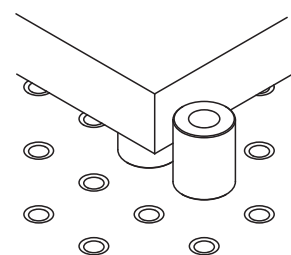
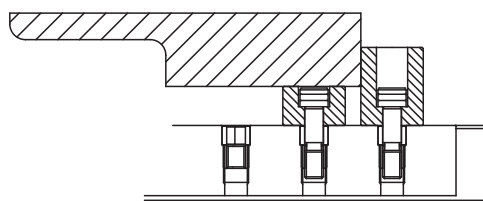
Tempered.
OD and support faces ground.

Sample order:

K0816.08020

Note:

Depending on the system (M8, M12, M16), the locating supports are positioned and secured using shoulder screws or locating sleeves with socket head screw.



KIPP Locating supports

Order No.	A	B	C Ø for shoulder screw	D	E	Suitable shoulder screw
K0816.12025	25	40	12 H7	20	12	K0815.12045
K0816.12050	50	40	12 H7	20	12	K0815.12045
K0816.12075	75	40	12 H7	20	12	K0815.12045
K0816.16050	50	50	16 H7	26	15	K0815.16055
K0816.16075	75	50	16 H7	26	15	K0815.16055
K0816.16100	100	50	16 H7	26	25	K0815.16065
K0816.16125	125	50	16 H7	26	25	K0815.16065

Support blocks

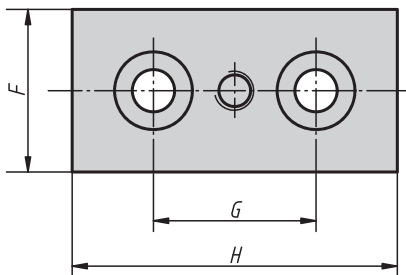
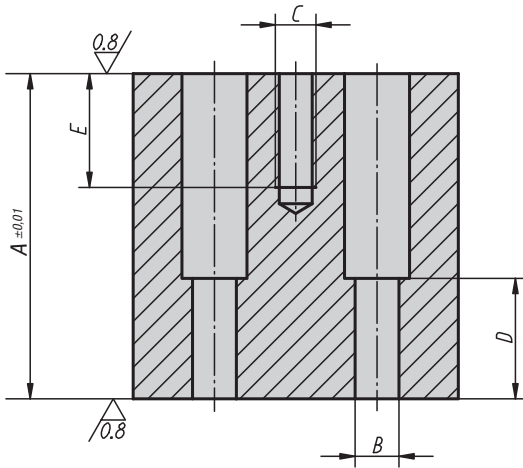


Material:
Carbon steel.

Version:
Tempered, black oxidised.
Contact faces ground.

Sample order:
K0827.36012020

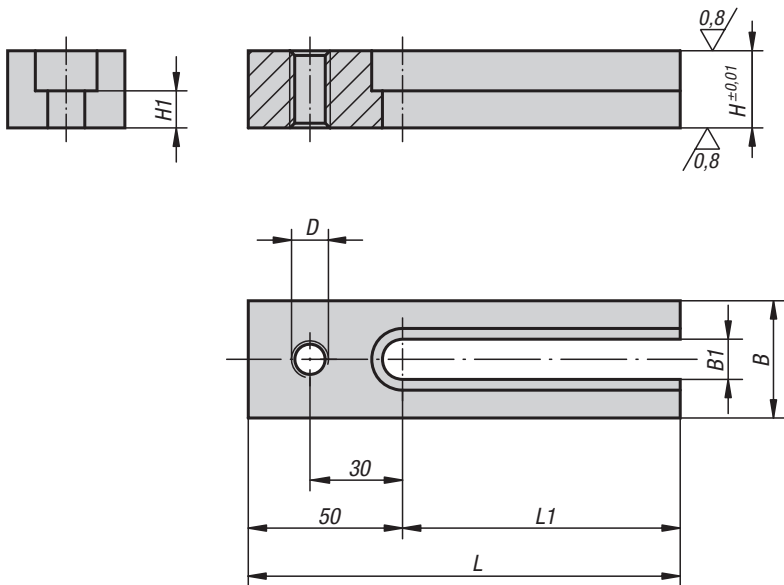
Note:
Support blocks are for placing under long workpieces to prevent bending during machining or clamping. The tapped hole is for mounting fixture elements between the grid holes.



KIPP Support blocks

Order No.	A	B hole for DIN 912 screw	C	D	E	F	G	H
K0827.36012020	20	M12	M12	7	20	50	50	100
K0827.36012025	25	M12	M12	12	25	50	50	100
K0827.36012032	32	M12	M12	19	32	50	50	100
K0827.36012040	40	M12	M12	27	40	50	50	100
K0827.36012050	50	M12	M12	37	35	50	50	100
K0827.36012063	63	M12	M12	37	35	50	50	100
K0827.36012080	80	M12	M12	37	35	50	50	100
K0827.36012100	100	M12	M12	37	35	50	50	100
K0827.36012125	125	M12	M12	37	35	50	50	100
K0827.36016025	25	M16	M16	8	25	50	50	100
K0827.36016032	32	M16	M16	15	32	50	50	100
K0827.36016040	40	M16	M16	23	40	50	50	100
K0827.36016050	50	M16	M16	33	35	50	50	100
K0827.36016063	63	M16	M16	46	35	50	50	100
K0827.36016080	80	M16	M16	46	35	50	50	100
K0827.36016100	100	M16	M16	46	35	50	50	100

Seating blocks adjustable

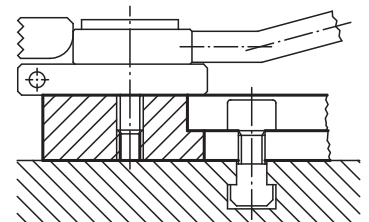


Material:
Carbon steel.

Version:
Tempered, black oxidised.
Contact faces ground.

Sample order:
K0824.12125

Note:
The tapped hole is for mounting fixture components.
The slot allows the riser to be set in any desired position.

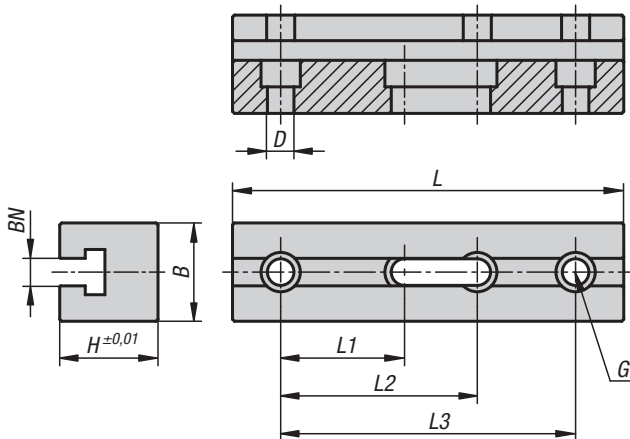
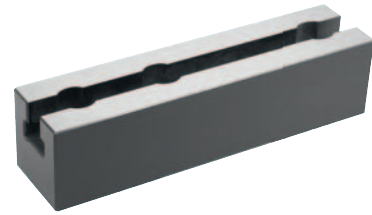


KIPP Seating blocks adjustable

Order No.	D	L	L1	B	B1	H	H1
K0824.12025	M12	90	40	38	13	25	12
K0824.12032	M12	90	40	38	13	32	19
K0824.12040	M12	90	40	38	13	40	27
K0824.12050	M12	90	40	38	13	50	37
K0824.12125	M12	140	90	38	13	25	12
K0824.12132	M12	140	90	38	13	32	19
K0824.12140	M12	140	90	38	13	40	27
K0824.12150	M12	140	90	38	13	50	37
K0824.16032	M16	90	40	50	17	32	15
K0824.16040	M16	90	40	50	17	40	23
K0824.16050	M16	90	40	50	17	50	33
K0824.16132	M16	140	90	50	17	32	15
K0824.16140	M16	140	90	50	17	40	23
K0824.16150	M16	140	90	50	17	50	33

Straps

for fixture components



Material:
Steel 1.7131.

Version:
black oxidised,
case-hardened and ground.

Sample order:
K1537.14149

Note:
The straps are used to fasten fixture components via the T-slot.
The hole spacing on the straps enable flexible mounting on the machine table or a base element.
Diagonal installation is possible due to the combination of the fastening hole and fastening slot.

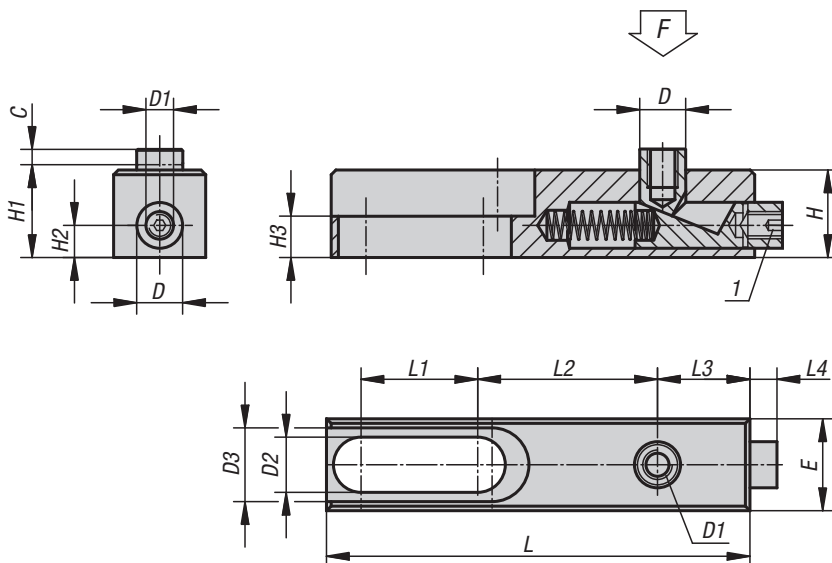
Accessories:
DIN 912 cap screws
Nuts for DIN 508 T-slots

KIPP Straps for fixture components

Order No.	BN=slot width	B	D	H	L	L1	L2	L3	G for socket head screw
K1537.14149	14	48	13,5	50	149	63	100	-	M12
K1537.14199	14	48	13,5	50	199	63	100	150	M12
K1537.18149	18	58	17,5	60	149	63	100	-	M16
K1537.18199	18	58	17,5	60	199	63	100	150	M16

K0889

Workpiece supports



Material:
Steel.

Version:
Case-hardened, black oxidised and ground.

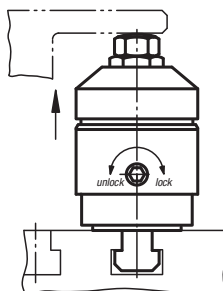
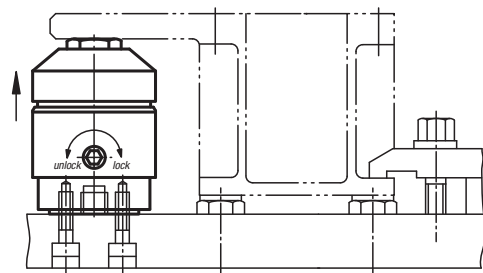
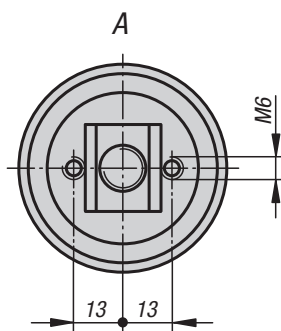
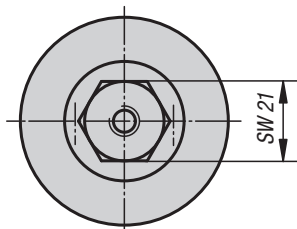
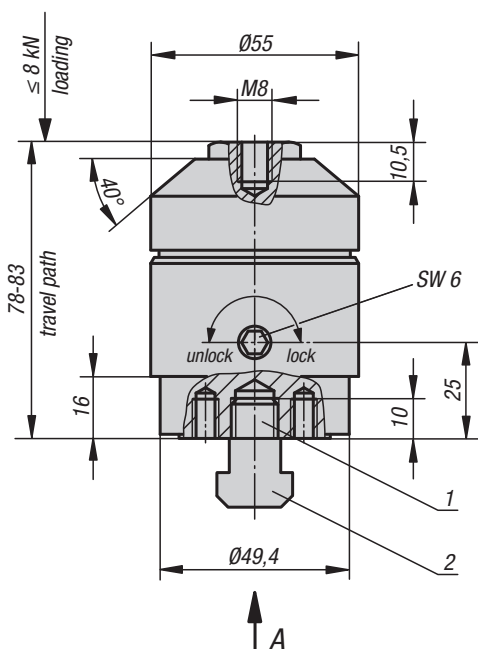
Sample order:
K0889.006

Note:
These supports are placed under long or thin workpieces to prevent vibration or bending during milling, drilling, grinding or shaping operations.

Drawing reference:
1) set screw

KIPP Workpiece supports

Order No.	C	D	D1	D2	D3	E	H	H1	H2	H3	L	L1	L2	L3	L4	F kN
K0889.006	4	10	M6	8,2	16,2	20	19	19,5	7	9	92	25,5	39	20	6	3
K0889.010	6	16	M10	12,5	24,4	30	30	31	10	10	149	44	61	32	11	15

**Material:**

Main body hardened steel.
Housing aluminium.

Version:

Main body nitrated, manganese phosphated and ground.
Housing red anodised.

Note:

The support element is for supporting overhanging workpiece parts. It prevents vibration and bending during machining.

Method of operation:

1. Turn the cam screw (hex. socket SW 6) on the side of the housing, the support bolt will move out under light spring load until it makes contact with the workpiece.
2. Continue to turn to „lock“ position. The support bolt locks without changing position.
3. Turn the cam screw in the opposite direction and the support bolt will unlock. Continue turning to the „unlock“ position and the support bolt will slide back into the body.

Assembly:

Mount the support element to the fixture using the two M6 tapped holes.

Alternatively: Exchange the M12x10 plug screw for a M12x30 grub screw and mount the support directly onto the machine table with a T-nut.

For safe operation the M12 tapped hole must always be filled.

It is possible to countersink the support element by 16 mm.

Various rest pads can be mounted into the M8 tapped hole on the support bolt.

Supplied with M12x30 grub screw and M12 nut for T-slots (DIN 508).

Drawing reference:

- 1) grub screw M12x30 DIN 913 (exchangeable)
- 2) nut for T-slots M12x14 DIN 508

KIPP Support element

Order No.	Load capacity N	Travel path
K1224.0508	8000	5 mm

Positioning units

spring-loaded



Material, version:

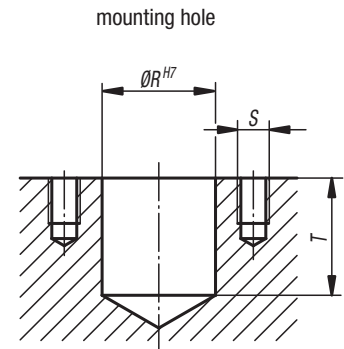
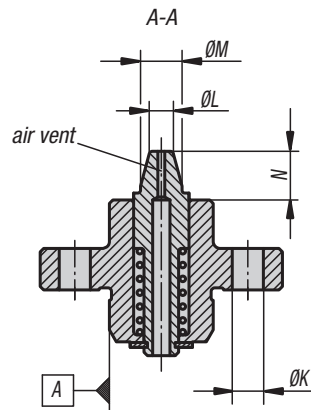
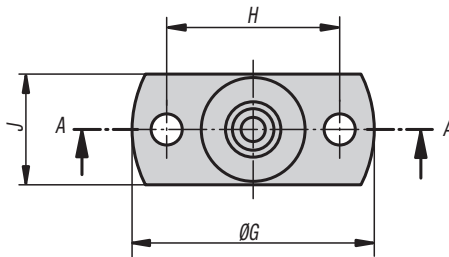
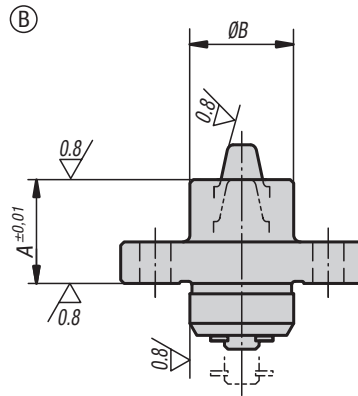
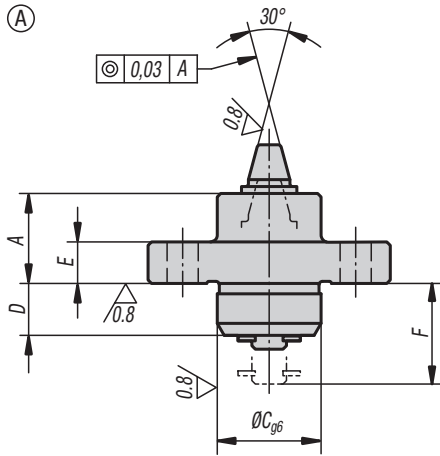
Body carbon steel, hardened and black oxidised.
Locating pin hardened tool steel.

Sample order:

K0917.15060

Note:

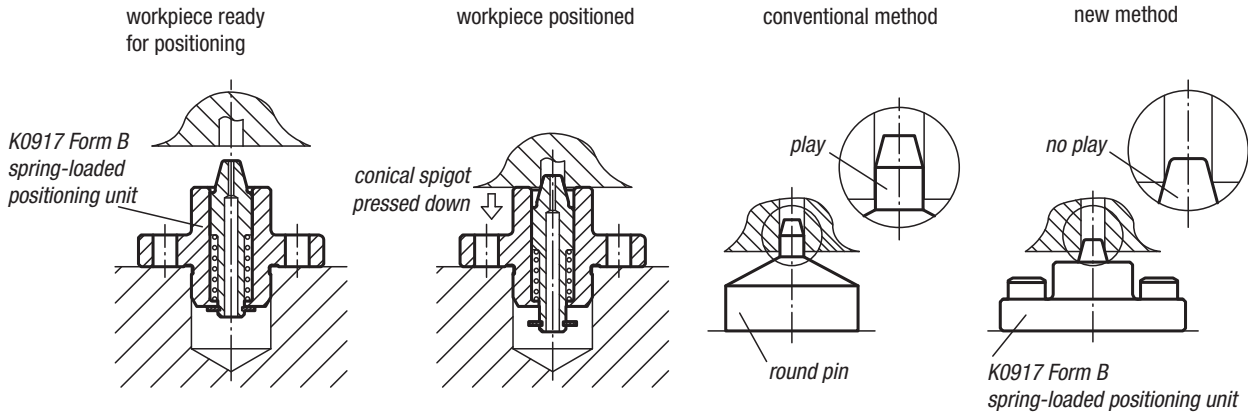
* The conical spigot can position holes within these limits.



KIPP Positioning units, spring-loaded

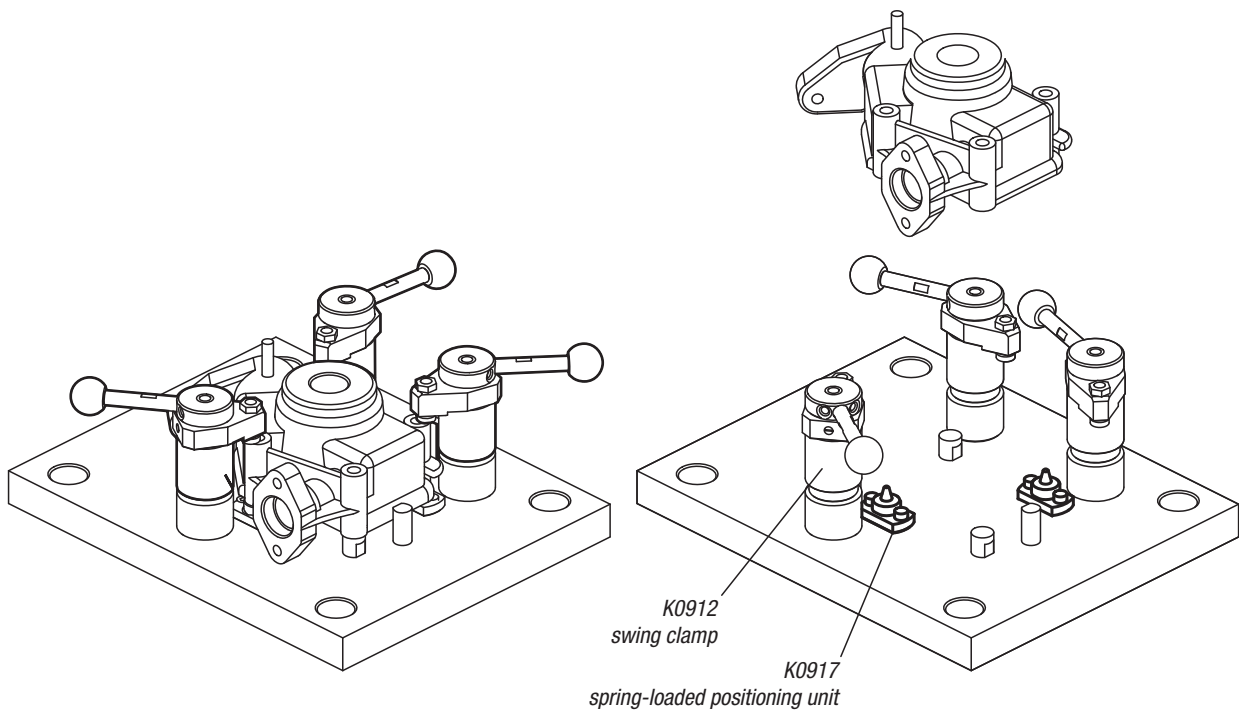
Order No.	Form	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	Receiving hole	Spring force cone N
K0917.15060	A	13	15	15	7,5	6	15	35	25	16	4,5	3,5	6	7,4	15	M4	16	ø3,8 - ø5,2*	6,4 - 19,3
K0917.15070	A	13	15	15	7,5	6	15	35	25	16	4,5	4,5	7	7,4	15	M4	16	ø4,8 - ø6,2*	6,4 - 19,3
K0917.20090	A	18	20	20	10	8	20	40	30	22	4,5	5,5	9	9,3	20	M4	21	ø5,8 - ø8,2*	5,5 - 20,5
K0917.20110	A	18	20	20	10	8	20	40	30	22	4,5	7,5	11	9,3	20	M4	21	ø7,8 - ø10,2*	5,5 - 20,5

Order No.	Form	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	Receiving hole	Spring force cone N
K0917.15061	B	15	15	15	7,5	6	15	35	25	16	4,5	3,5	6	5,4	15	M4	16	ø3,8 - ø5,2*	6,4 - 19,3
K0917.15071	B	15	15	15	7,5	6	15	35	25	16	4,5	4,5	7	5,4	15	M4	16	ø4,8 - ø6,2*	6,4 - 19,3
K0917.20091	B	20	20	20	10	8	20	40	30	22	4,5	5,5	9	7,3	20	M4	21	ø5,8 - ø8,2*	5,5 - 20,5
K0917.20111	B	20	20	20	10	8	20	40	30	22	4,5	7,5	11	7,3	20	M4	21	ø7,8 - ø10,2*	5,5 - 20,5



The conical spigot is pushed down when the workpiece is mounted on the positioning unit.

The conical spigot ensures precise positioning.



Note:

To prevent the positioning unit lifting the workpiece, hold it down by hand when loosening the swing clamp.

Adjustable supports



Material:

Carbon steel.

Version:

Black oxidised.

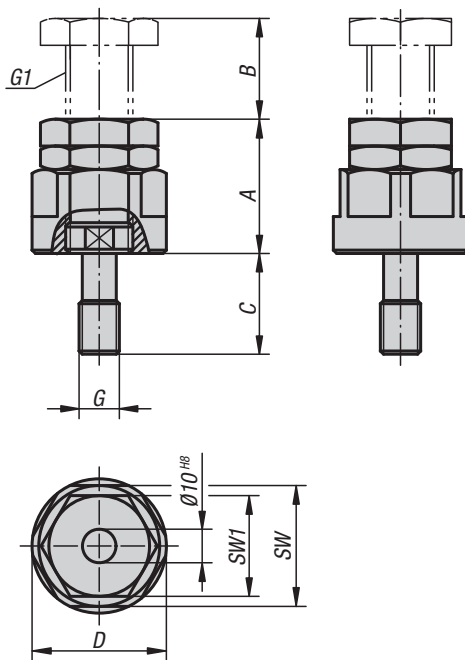
Adjustment spindle tempered.

Sample order:

K0825.16100

Note:

Inserts K0826 can be mounted in the top to suit the application.



KIPP Adjustable supports

Order No.	A min.	B max.	C	D	SW	SW1	G	G1
K0825.12040	40	10	30	40	36	30	M12	M20x1,5
K0825.12050	50	20	30	40	36	30	M12	M20x1,5
K0825.12070	70	40	30	40	36	30	M12	M20x1,5
K0825.12100	100	50	30	50	46	36	M12	M24x2
K0825.12150	150	100	30	50	46	36	M12	M24x2
K0825.16040	40	10	30	40	36	30	M16	M20x1,5
K0825.16050	50	20	30	40	36	30	M16	M20x1,5
K0825.16070	70	40	30	40	36	30	M16	M20x1,5
K0825.16100	100	50	30	50	46	36	M16	M24x2
K0825.16150	150	100	30	50	46	36	M16	M24x2

Inserts

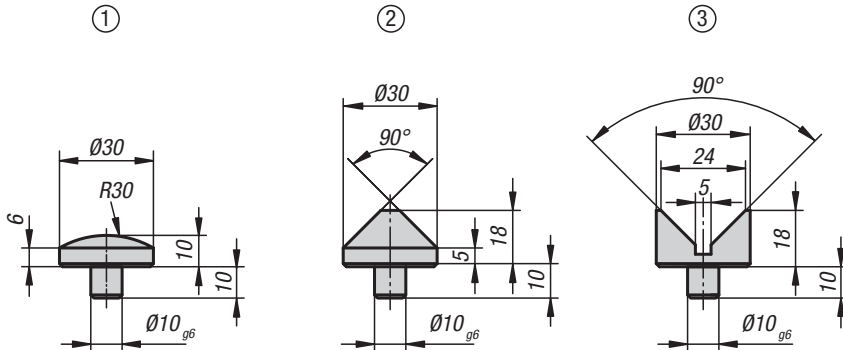


Material:
Carbon steel.

Version:
Tempered to 1100-1200 N/mm², black oxidised.

Sample order:
K0826.02

Drawing reference:
1) rounded insert
2) cone insert
3) prism insert



KIPP Inserts

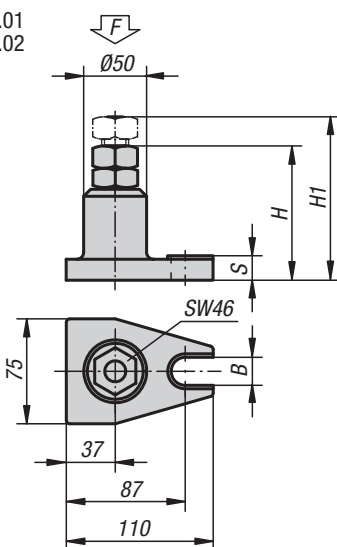
Order No.	Version
K0826.01	Rounded Insert
K0826.02	Cone Insert
K0826.03	Prism Insert

K1233

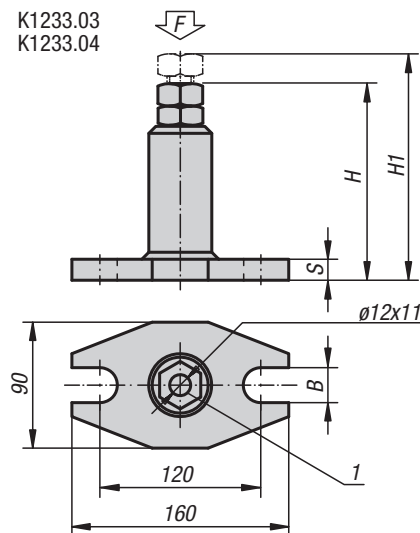
Atlas jack

with locknut

K1233.01
K1233.02



K1233.03
K1233.04



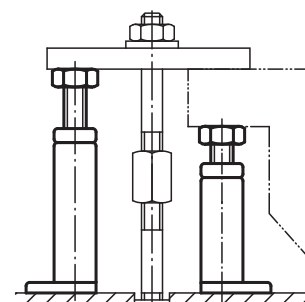
Material:
Carbon steel.

Version:
Hammer-tone, spindle with 30 x 6 trapezoidal thread.

Sample order:
K1233.01

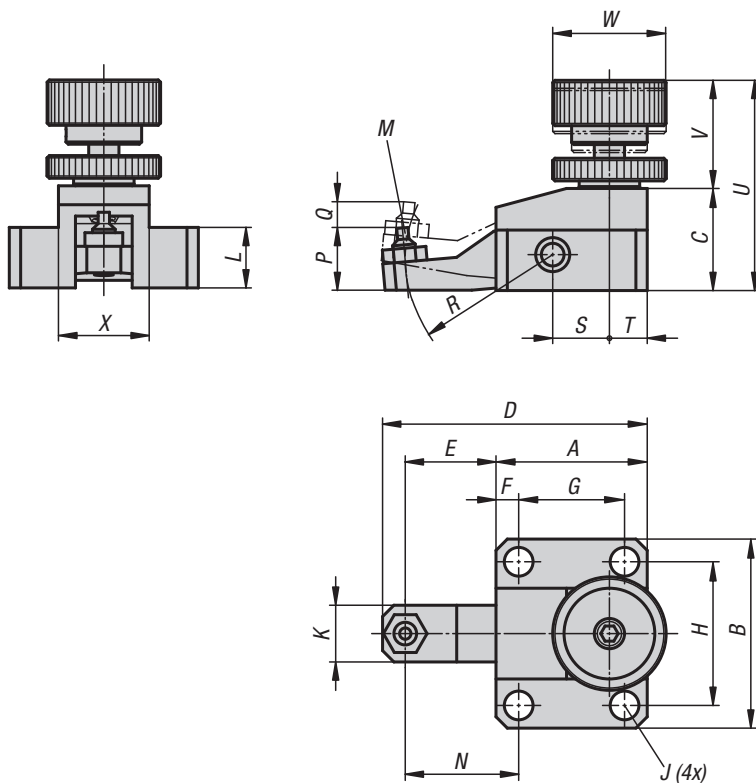
KIPP Atlas jack with locknut

Order No.	Adjustment range	base plate	H	H1	B	S	F kN
K1233.01	100 - 140	76x111	100	140	18	17	60
K1233.02	140 - 200	76x111	140	200	18	17	60
K1233.03	200 - 320	90x160	200	320	22	22	40
K1233.04	320 - 540	90x160	320	540	22	25	25



Workpiece supports

adjustable



Material:

Carbon steel 1.0503.

Version:

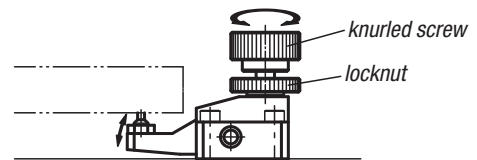
Black oxidised.

Sample order:

K0919.08020

Note:

Workpiece supports are for supporting overhanging workpiece parts to prevent vibrations and bending during machining. They should not be subjected to strong forces from a clamping element and are not intended as supports under a clamping point.



- 1.) Turning the knurled screw moves the support arm up or down.
- 2.) Once the rest is in contact with the workpiece, the screw can be locked with the locknut.

KIPP Workpiece supports, adjustable

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Clamping force N	Tightening torque max. Nm
K0919.08020	40	50	27	70	24	6	28	38	6,6	15	16	M6x16	30	17	6	39	15	10	56	29	30	24	300	1,5
K0919.10027	55	65	34	95	31,5	8,5	38	48	9	18	20	M8x22	40	23	8	51,5	20	15	68	34	36	29	350	2

Workpiece supports

adjustable



Material:

Carbon steel.

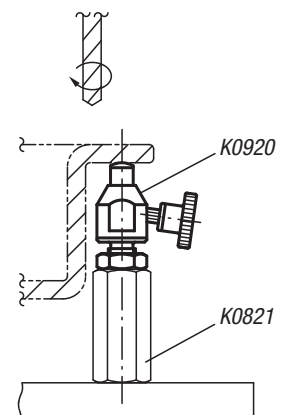
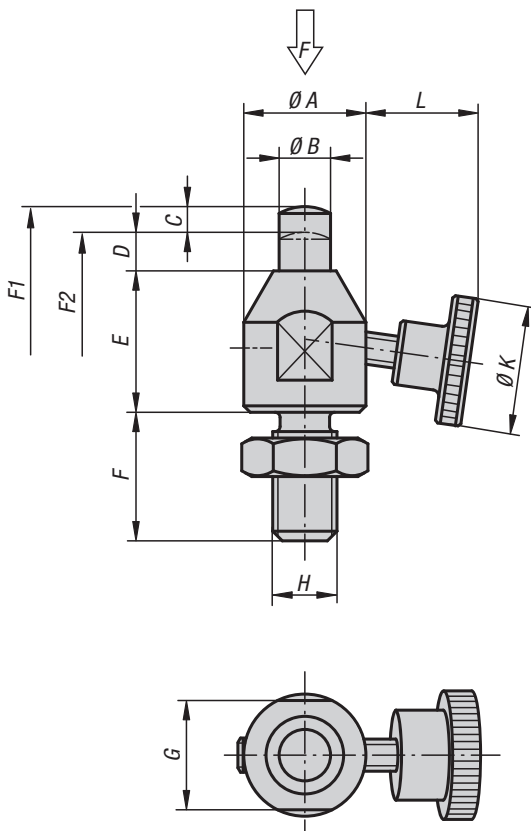
Version:

Body black oxidised.

Rest pad hardened and black oxidised.

Sample order:

K0920.08023



KIPP Workpiece supports, adjustable

Order No.	A	B	C (travel)	D	E	F	G	H	K	L	F N	Spring force initial pressure F1 approx. N	Spring force final pressure F2 approx. N
K0920.08023	15	6	3	5	18	16	13	M8	20	13,2	200	1,5	3
K0920.10028	19	8	4	6	22	20	17	M10	25	16,3	300	1,8	3
K0920.12031	22	10	4	6	25	24	19	M12	28	22,3	400	1,8	3



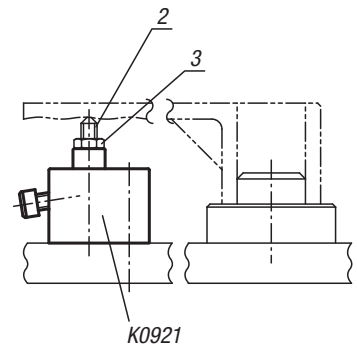
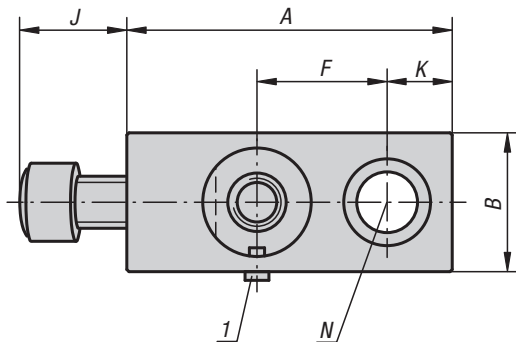
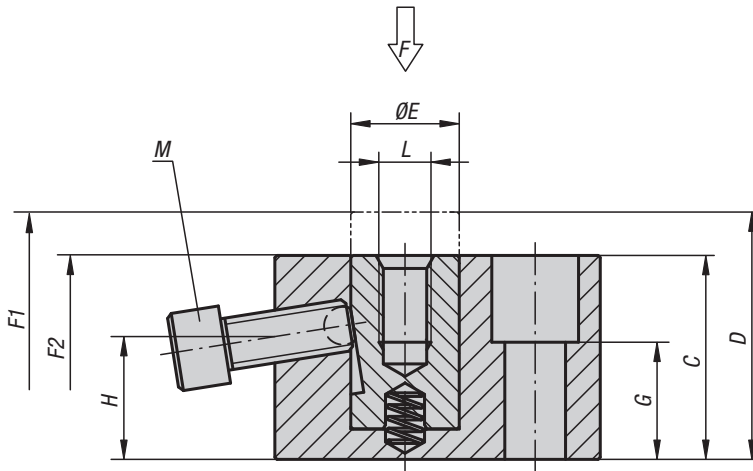
Material:
Carbon steel.

Version:
Body black oxidised.
Thrust pin tempered and black oxidised.

Sample order:
K0921.06029

Drawing reference:
M = ball pressure screw
N = through hole for socket head screw DIN 912

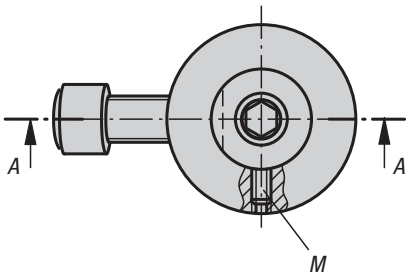
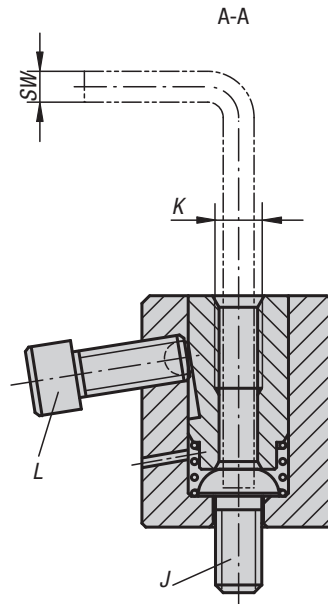
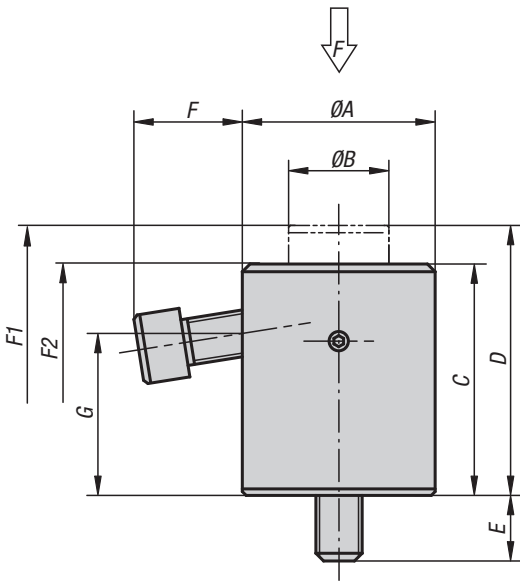
- 1) rotation lock
- 2) screw rest
- 3) hexagonal nut



KIPP Workpiece supports

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	F N	Spring force initial pressure F1 approx. N	Spring force final pressure F2 approx. N
K0921.06029	38	19	29	35	12	15	15	17,6	13	8	M6x10	M6x16	M6	4000	0	6
K0921.08037	50	22	37	47	16	20	20	21,1	16	10	M8x15	M8x20	M8	6000	0	7
K0921.12047	75	32	47	57	25	30	27	28,3	25	15	M12x20	M12x30	M12	9000	1	11

Workpiece support cylinders



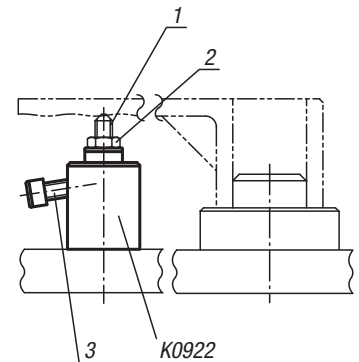
Material:
Carbon steel.

Version:
Body black oxidised.
Thrust pin hardened and black oxidised.

Sample order:
K0922.06039

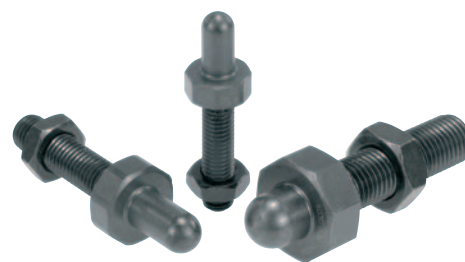
Drawing reference:
J = mounting screw
L = ball-end thrust screw
M = grub screw

- 1) screw rest
- 2) hexagonal nut
- 3) ball-end thrust screw



KIPP Workpiece support cylinders

Order No.	A	B	C	D	E	F	G	J	K	L	M	SW	F	Spring force initial pressure F1 approx. N	Spring force final pressure F2 approx. N
K0922.06039	28	14	33	39	10	14,1	22	M6	M6x12	M6x16	M4x8	4	4000	10	22
K0922.08052	35	19	42	52	15	18,8	28,5	M8	M8x16	M8x20	M4x8	5	6000	10	27
K0922.12070	50	26	60	70	17	28,5	42	M12	M12x24	M12x30	M5x12	8	9000	15	30
K0922.16080	60	33	70	80	22	26,5	47	M16	M16x32	M12x30	M5x15	10	9000	15	35



Material:
Carbon steel, tempered.

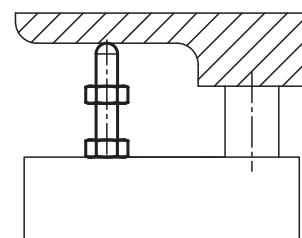
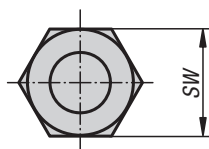
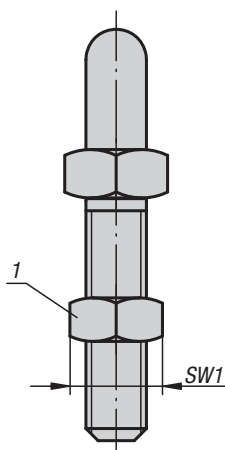
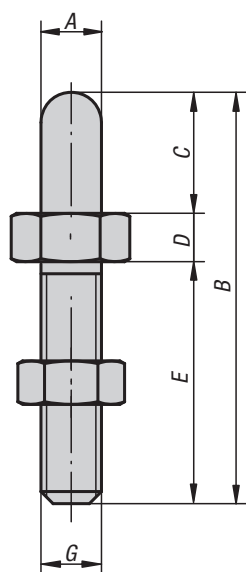
Version:
Black oxidised.

Sample order:
K0297.16016

Note:
The rounded nose also allows support bolts to be used as positioning elements for workpieces with matching holes.

The versions K0297.20020 and K0297-20040 have an octagonal collar.

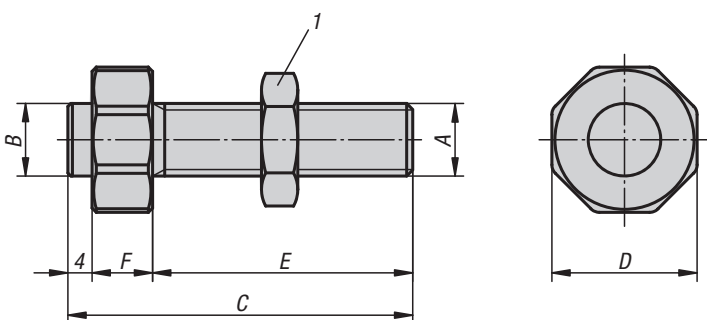
Drawing reference:
1) locknut



KIPP Support bolts

Order No.	A	B	C	D	E	G	SW	SW1
K0297.06006	6	37	6	6	25	M6	13	10
K0297.06012	6	43	12	6	25	M6	13	10
K0297.08008	8	45	8	7	30	M8	13	13
K0297.08016	8	53	16	7	30	M8	13	13
K0297.10010	10	58	10	8	40	M10	17	17
K0297.10020	10	68	20	8	40	M10	17	17
K0297.12012	12	72	12	10	50	M12	19	19
K0297.12024	12	84	24	10	50	M12	19	19
K0297.16016	16	89	16	13	60	M16	24	24
K0297.16032	16	105	32	13	60	M16	24	24
K0297.20020	20	115	20	15	80	M20	36	30
K0297.20040	20	135	40	15	80	M20	36	30

Support bolts

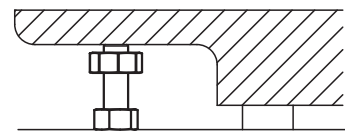


Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0828.08041

Drawing reference:
1) locknut



KIPP Support bolts

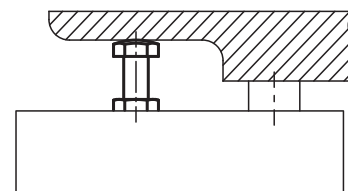
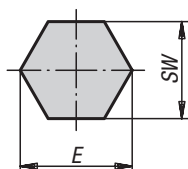
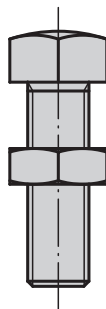
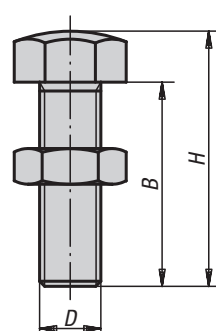
Order No.	A	B	C	D	E	F
K0828.08041	M8	8	41	17	30	7
K0828.08051	M8	8	51	17	40	7
K0828.12057	M12	12	57	24	43	10
K0828.12072	M12	12	72	24	58	10
K0828.16057	M16	16	57	30	43	10
K0828.16072	M16	16	72	30	58	10



Material:
Carbon steel or brass

Version:
Tempered and black oxidised.

Sample order:
K0307.16055

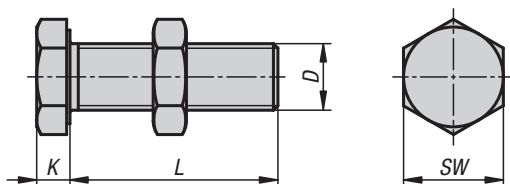


KIPP Rest pads

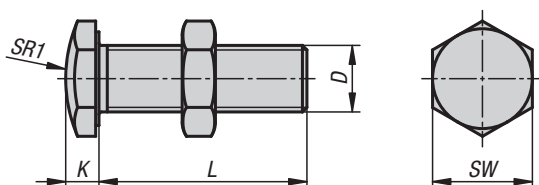
Order No.	Main material	B	D	E	H	SW
K0307.06030	high carbon steel	25	M6	11,5	30	10
K0307.06040	high carbon steel	35	M6	11,5	40	10
K0307.06050	high carbon steel	45	M6	11,5	50	10
K0307.08036	high carbon steel	30	M8	15	36	13
K0307.08046	high carbon steel	40	M8	15	46	13
K0307.08056	high carbon steel	50	M8	15	56	13
K0307.10042	high carbon steel	35	M10	19,6	42	17
K0307.10048	high carbon steel	40	M10	19,6	48	17
K0307.10058	high carbon steel	50	M10	19,6	58	17
K0307.10068	high carbon steel	60	M10	19,6	68	17
K0307.12048	high carbon steel	42	M12	21,9	50	19
K0307.12070	high carbon steel	60	M12	21,9	70	19
K0307.12080	high carbon steel	70	M12	21,9	80	19
K0307.16055	high carbon steel	45	M16	27,7	55	24
K0307.16075	high carbon steel	65	M16	27,7	75	24
K0307.16085	high carbon steel	75	M16	27,7	85	24
K0307.12148	brass	42	M12	21,9	50	19
K0307.16155	brass	45	M16	27,7	55	24



(A)



(B)



Material:

Steel grade 10.9
(M3 8.8)

Version:

Stop screw black oxidised.
Nut electro zinc-plated.

Sample order:

K1200.10820
(include length L e.g. 20 for L = 20 mm)

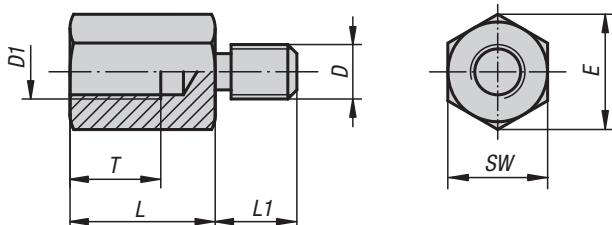
Note:

Size M3 stop screw only available in grade 8.8.

KIPP Stop screws

Order No.	Form	D	L	K	SW	SR1
K1200.103**	A	M3	16/25	2	5,5	-
K1200.104**	A	M4	16/25/35	2,5	7	-
K1200.105**	A	M5	16/25/35	3,5	8	-
K1200.106**	A	M6	25/35/40	3,8	10	-
K1200.108**	A	M8	12/16/20/25/30/35/40/45/50/55/65/70/85	5	13	-
K1200.110**	A	M10	35/40/50/60	6	17	-
K1200.112**	A	M12	40/60/70	7	19	-
K1200.116**	A	M16	50/60/70	9,5	24	-
K1200.203**	B	M3	16/25	2	5,5	10
K1200.204**	B	M4	16/25/35	2,5	7	10
K1200.205**	B	M5	16/25/35	3,5	8	12
K1200.206**	B	M6	25/35/40	3,8	10	15
K1200.208**	B	M8	12/16/20/25/30/35/40/45/50/55/65/70/85	5	13	20
K1200.210**	B	M10	35/40/50/60	6	17	30
K1200.212**	B	M12	40/60/70	7	19	30
K1200.216**	B	M16	50/60/70	9,5	24	35

Extension pieces



Material:
Carbon steel.

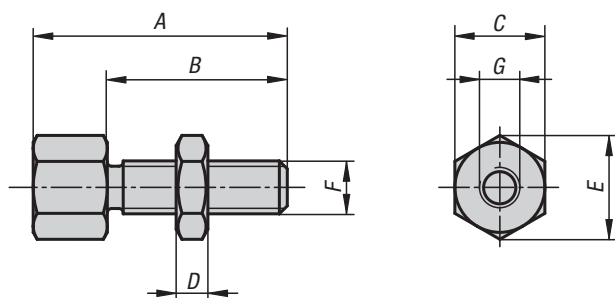
Version:
Black oxidised.

Sample order:
K0821.120750

Note:
Extension pieces are used to extend self-aligning pads, spring plungers, positioning feet, rest pads etc.

KIPP Extension pieces

Order No.	L	L1	T	D	D1	E	SW
K0821.08025	25	13	15	M8	M8	15	13
K0821.08032	32	13	15	M8	M8	15	13
K0821.08040	40	13	15	M8	M8	15	13
K0821.10025	25	15	17	M10	M10	19,6	17
K0821.10032	32	15	17	M10	M10	19,6	17
K0821.10040	40	15	17	M10	M10	19,6	17
K0821.10050	50	16	20	M10	M10	19,6	17
K0821.10075	75	16	20	M10	M10	19,6	17
K0821.120320	32	18	20	M12	M12	25,4	22
K0821.120500	50	18	20	M12	M12	25,4	22
K0821.120750	75	18	20	M12	M12	25,4	22
K0821.160320	32	25	20	M16	M16	31,2	27
K0821.160500	50	25	30	M16	M16	31,2	27
K0821.160750	75	25	30	M16	M16	31,2	27
K0821.108025	25	19	15	M8	M8	15	13
K0821.108032	32	19	15	M8	M8	15	13
K0821.108040	40	19	15	M8	M8	15	13
K0821.112032	32	30	20	M12	M12	25,4	22
K0821.112050	50	30	20	M12	M12	25,4	22
K0821.112075	75	30	20	M12	M12	25,4	22
K0821.116032	32	30	20	M16	M16	31,2	27
K0821.116050	50	30	30	M16	M16	31,2	27
K0821.116075	75	30	30	M16	M16	31,2	27



Material:
Carbon steel.

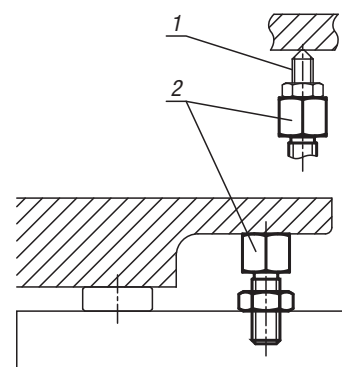
Version:
Black oxidised.

Sample order:
K0308.0803006

Note:
Various rests can be mounted on this jack screw.

Drawing reference:

- 1) screw rest
- 2) jack screw



KIPP Jack screws

Order No.	A	B	C	D	E	F	G
K0308.0803006	30	20	13	5	14,4	M8	M6 x 6
K0308.0804006	40	30	13	5	14,4	M8	M6 x 6
K0308.1003808	38	24	17	6	18,9	M10	M8 x 8
K0308.1004808	48	34	17	6	18,9	M10	M8 x 8
K0308.1205110	51	33	22	7	24,5	M12	M10 x 10
K0308.1206610	66	48	22	7	24,5	M12	M10 x 10
K0308.1606212	62	40	27	10	30,1	M16	M12 x 12
K0308.1607712	77	55	27	10	30,1	M16	M12 x 12

Jack screws extended

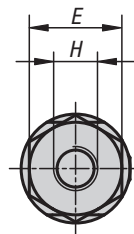
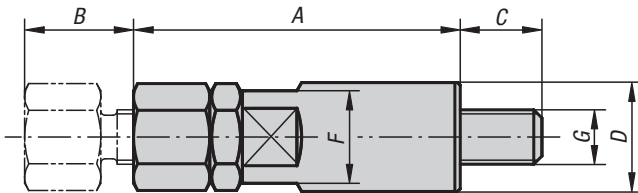


Material:
Carbon steel.

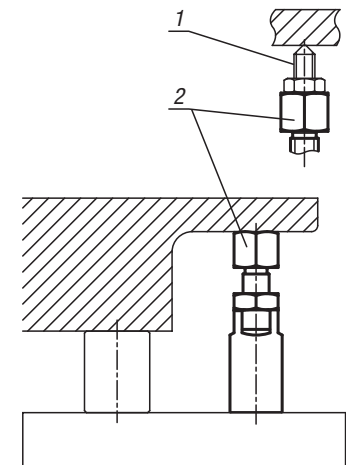
Version:
Black oxidised.

Sample order:
K0923.08040

Drawing reference:
1) screw rest
2) jack screw



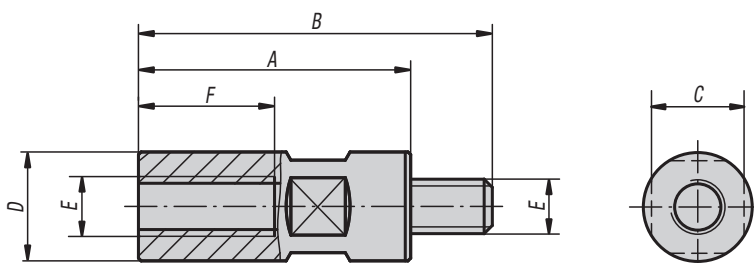
Jack screw for mounting various rests



KIPP Jack screws extended

Order No.	A	B	C	D	E	F	G	H
K0923.08040	40	10	12	16	13	13	M8	M6 x 6
K0923.08050	50	20	12	16	13	13	M8	M6 x 6
K0923.10050	50	10	14	20	17	17	M10	M8 x 8
K0923.10060	60	20	14	20	17	17	M10	M8 x 8
K0923.12065	65	15	19	24	22	22	M12	M10 x 10
K0923.12080	80	30	19	24	22	22	M12	M10 x 10
K0923.16080	80	15	24	32	27	27	M16	M12 x 12
K0923.16095	95	30	24	32	27	27	M16	M12 x 12

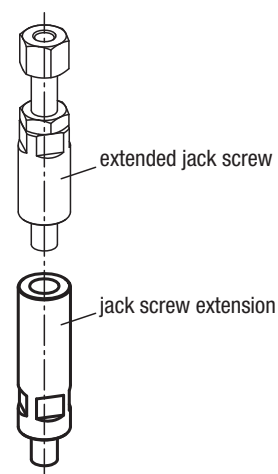
Extensions for jack screws



Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0924.08032



KIPP Extensions for jack screws

Order No.	A	B	C	D	E	F
K0924.08032	32	44	13	16	M8	20
K0924.08040	40	52	13	16	M8	20
K0924.08050	50	62	13	16	M8	20
K0924.08065	65	77	13	16	M8	20
K0924.08080	80	92	13	16	M8	20
K0924.08100	100	112	13	16	M8	20
K0924.10040	40	54	17	20	M10	25
K0924.10050	50	64	17	20	M10	25
K0924.10065	65	79	17	20	M10	25
K0924.10080	80	94	17	20	M10	25
K0924.10100	100	114	17	20	M10	25
K0924.12050	50	69	22	24	M12	30
K0924.12065	65	84	22	24	M12	30
K0924.12080	80	99	22	24	M12	30
K0924.12100	100	119	22	24	M12	30
K0924.12125	125	144	22	24	M12	30
K0924.12160	160	179	22	24	M12	30
K0924.16050	50	74	27	32	M16	32
K0924.16065	65	89	27	32	M16	40
K0924.16080	80	104	27	32	M16	40
K0924.16100	100	124	27	32	M16	40
K0924.16125	125	149	27	32	M16	40
K0924.16160	160	184	27	32	M16	40

Grub screws with thrust pad

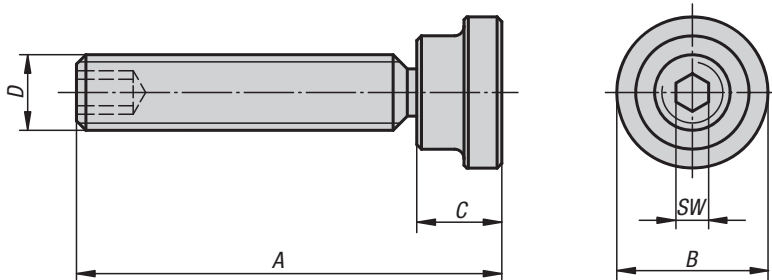


Material, version:

Thrust pad: carbon steel, tempered, black oxidised.
Grub screw: carbon steel, tempered.

Sample order:

K0829.08X43



KIPP Grub screws with thrust pad

Order No.	A	B	C	D	SW
K0829.08X43	43	16	9	M8	4
K0829.08X63	63	16	9	M8	4
K0829.10X64	64	20	11	M10	5
K0829.10X84	84	20	11	M10	5
K0829.12X65	65	25	13	M12	6
K0829.12X85	85	25	13	M12	6
K0829.12X105	105	25	13	M12	6
K0829.16X85	85	32	15	M16	8
K0829.16X105	105	32	15	M16	8
K0829.16X130	130	32	15	M16	8
K0829.20X105	105	40	16	M20	10
K0829.20X130	130	40	16	M20	10
K0829.20X155	155	40	16	M20	10



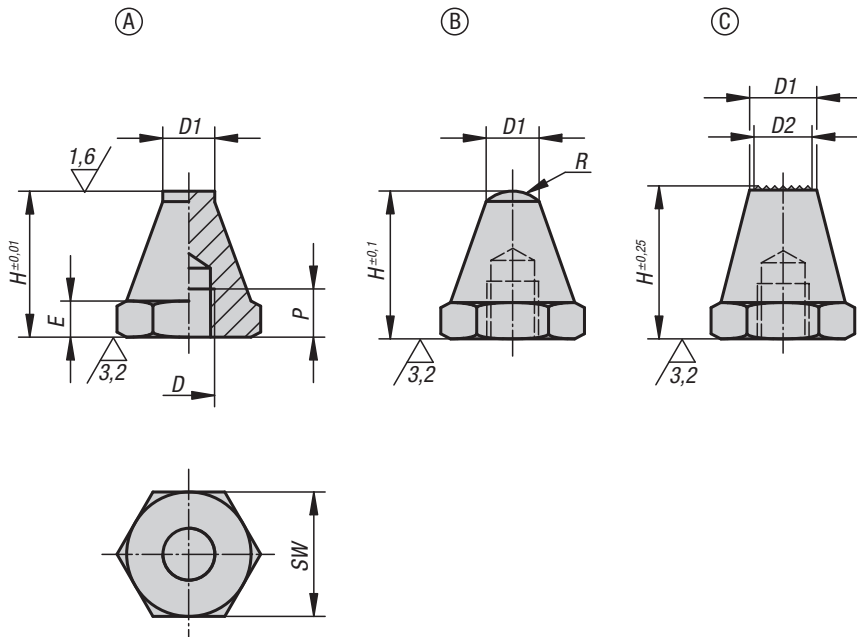
Material:
Body high carbon steel.

Version:
Body tempered and black oxidised.

Sample order:
K0294.106012

Note:
Rest pads are for supporting machined and non-machined parts. They can also be used as stops and thrust pads in fixtures and toolmaking. Studs or grub screws can be screwed and glued into the tapped hole D to make a rest pad with external thread.

Drawing reference:
Form A: flat face
Form B: ball end
Form C: diamond grip



KIPP Rest pads

Order No. Form A	Order No. Form B	Order No. Form C	D	D1	D2	E	H	P	R	SW
K0294.106012	K0294.206012	K0294.306012	M6	6	-/-/5	3	12,5	4	-/5/-	11
K0294.106025	K0294.206025	K0294.306025	M6	6	-/-/5	3	25	7	-/5/-	11
K0294.108015	K0294.208015	K0294.308015	M8	8	-/-/6	4	15	6	-/8,5/-	13
K0294.108030	K0294.208030	K0294.308030	M8	8	-/-/6	4	30	9	-/8,5/-	13
K0294.110020	K0294.210020	K0294.310020	M10	10	-/-/8	5	20	9	-/9/-	17
K0294.110040	K0294.210040	K0294.310040	M10	10	-/-/8	5	40	13	-/9/-	17
K0294.112025	K0294.212025	K0294.312025	M12	12	-/-/9,5	6	25	11	-/12,75/-	19
K0294.112050	K0294.212050	K0294.312050	M12	12	-/-/9,5	6	50	16	-/12,75/-	19
K0294.116030	K0294.216030	K0294.316030	M16	16	-/-/13	8	30	12	-/17/-	24
K0294.116060	K0294.216060	K0294.316060	M16	16	-/-/13	8	60	20	-/17/-	24

Ball-end thrust screws without head

with full ball



Material:

Screw, high-carbon steel, grade 10.9
Ball, ball-bearing steel or POM.

Version:

Screw black.
Ball hardened bright or POM.

Sample order:

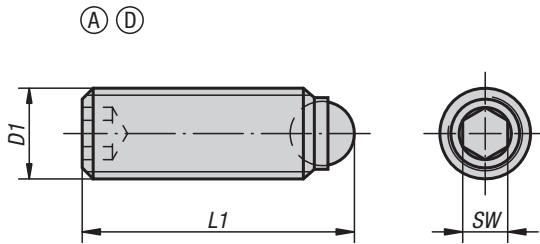
K0383.10810

Note:

Ball-end thrust screws with full ball are used when a clean, polished contact surface is required. Longer versions have been specially designed to be glued in, allowing mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series.

Drawing reference:

Form A: steel ball
Form D: POM ball

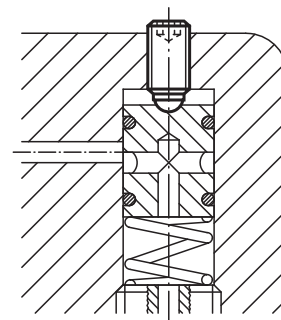


KIPP Ball-end thrust screws without head with full ball

Order No. Form A	Order No. Form D	D1	L1	Ball Ø	SW	Load rating max. kN (static load only)
K0383.1046	K0383.3046	M4	6	2,5	2	3,5/0,3
K0383.1048	K0383.3048	M4	8	2,5	2	3,5/0,3
K0383.10410	K0383.30410	M4	10	2,5	2	3,5/0,3
K0383.10412	K0383.30412	M4	12	2,5	2	3,5/0,3
K0383.10416	K0383.30416	M4	16	2,5	2	3,5/0,3
K0383.1058	K0383.3058	M5	8	3	2,5	4,5/0,5
K0383.10510	K0383.30510	M5	10	3	2,5	4,5/0,5
K0383.10512	K0383.30512	M5	12	3	2,5	4,5/0,5
K0383.10516	K0383.30516	M5	16	3	2,5	4,5/0,5
K0383.10520	K0383.30520	M5	20	3	2,5	4,5/0,5
K0383.10525	K0383.30525	M5	25	3	2,5	4,5/0,5
K0383.10610	K0383.30610	M6	10,8	4	3	9/0,9
K0383.10612	K0383.30612	M6	12,8	4	3	9/0,9
K0383.10616	K0383.30616	M6	16,8	4	3	9/0,9
K0383.10620	K0383.30620	M6	20,8	4	3	9/0,9
K0383.10625	K0383.30625	M6	25,8	4	3	9/0,9
K0383.10650	-	M6	50,8	4	3	9
K0383.10660	-	M6	60,8	4	3	9
K0383.10680	-	M6	80,8	4	3	9

Ball-end thrust screws without head

with full ball

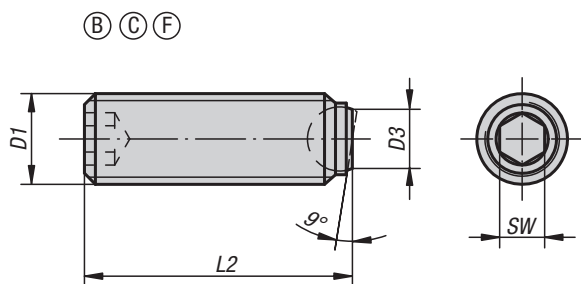


KIPP Ball-end thrust screws without head with full ball

Order No. Form A	Order No. Form D	D1	L1	Ball Ø	SW	Load rating max. kN (static load only)
K0383.10810	K0383.30810	M8	11,2	5,5	4	10/1,5
K0383.10812	K0383.30812	M8	13,2	5,5	4	10/1,5
K0383.10816	K0383.30816	M8	17,2	5,5	4	15/1,5
K0383.10820	K0383.30820	M8	21,2	5,5	4	15/1,5
K0383.10825	K0383.30825	M8	26,2	5,5	4	15/1,5
K0383.10830	K0383.30830	M8	31,2	5,5	4	15/1,5
K0383.10850	-	M8	51,2	5,5	4	15
K0383.10860	-	M8	61,2	5,5	4	15
K0383.10880	-	M8	81,2	5,5	4	15
K0383.11012	K0383.31012	M10	13,7	7	5	20/2
K0383.11016	K0383.31016	M10	17,7	7	5	20/2
K0383.11020	K0383.31020	M10	21,7	7	5	20/2
K0383.11025	K0383.31025	M10	26,7	7	5	20/2
K0383.11035	K0383.31035	M10	36,7	7	5	20/2
K0383.11216	K0383.31216	M12	18	8,5	6	30/3
K0383.11220	K0383.31220	M12	22	8,5	6	30/3
K0383.11225	-	M12	27	8,5	6	30
K0383.11230	K0383.31230	M12	32	8,5	6	30/3
K0383.11232	-	M12	34	8,5	6	30
K0383.11240	K0383.31240	M12	42	8,5	6	30/3
K0383.11620	-	M16	23,3	12	8	60
K0383.11625	-	M16	28,3	12	8	60
K0383.11635	-	M16	38,3	12	8	60
K0383.11650	-	M16	53,3	12	8	60
K0383.12030	-	M20	34,2	15	10	90
K0383.12040	-	M20	44,2	15	10	90
K0383.12060	-	M20	64,2	15	10	90
K0383.12435	-	M24	39,7	18	12	120
K0383.12450	-	M24	54,7	18	12	120
K0383.12480	-	M24	84,7	18	12	120

Ball-end thrust screws without head

with flattened ball



Material:
Screw carbon steel, grade 10.9
Ball, ball-bearing steel or POM.

Version:
Screw black.
Ball hardened bright or POM.

Sample order:
K0383.41012

Note:
Surfaces which are not flat and parallel can be firmly clamped or supported with Form B, C or F with flattened ball, the movable ball can adapt itself up to 9°.
Longer versions have been specially designed to glue in, allowing mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series.

Drawing reference:
Form B: steel ball
Form C: POM ball
Form F: steel ball diamond grip

KIPP Ball-end thrust screws without head with flattened POM ball

Order No.	Form	D1	D3	L2	Ball Ø	SW	Load rating max. kN (static load only)
K0383.7046	C	M4	1,8	5,9	2,5	2	0,3
K0383.7048	C	M4	1,8	7,9	2,5	2	0,3
K0383.70410	C	M4	1,8	9,9	2,5	2	0,3
K0383.70412	C	M4	1,8	11,9	2,5	2	0,3
K0383.70416	C	M4	1,8	15,9	2,5	2	0,3
K0383.7058	C	M5	2,1	7,8	3	2,5	0,5
K0383.70510	C	M5	2,1	9,8	3	2,5	0,5
K0383.70512	C	M5	2,1	11,8	3	2,5	0,5
K0383.70516	C	M5	2,1	15,8	3	2,5	0,5
K0383.70520	C	M5	2,1	19,8	3	2,5	0,5
K0383.70525	C	M5	2,1	24,8	3	2,5	0,5
K0383.70610	C	M6	3	10,3	4	3	0,9
K0383.70612	C	M6	3	12,3	4	3	0,9
K0383.70616	C	M6	3	16,3	4	3	0,9
K0383.70620	C	M6	3	20,3	4	3	0,9
K0383.70625	C	M6	3	25,3	4	3	0,9
K0383.70810	C	M8	4,2	10,4	5,5	4	1,5
K0383.70812	C	M8	4,2	12,4	5,5	4	1,5
K0383.70816	C	M8	4,2	16,4	5,5	4	1,5
K0383.70820	C	M8	4,2	20,4	5,5	4	1,5
K0383.70825	C	M8	4,2	25,4	5,5	4	1,5
K0383.70830	C	M8	4,2	30,4	5,5	4	1,5

KIPP Ball-end thrust screws without head with flattened serrated steel ball

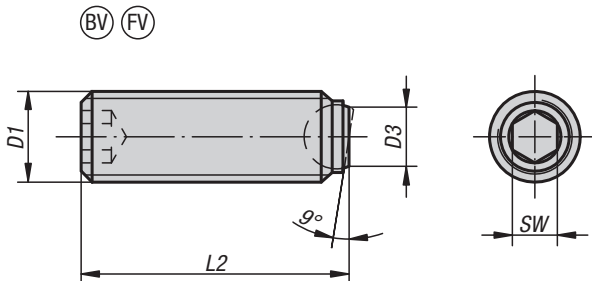
Order No.	Form	D1	D3	L2	Ball Ø	SW	Load rating max. kN (static load only)
K0383.41012	F	M10	6	12	7	5	20
K0383.41016	F	M10	6	16	7	5	20
K0383.41025	F	M10	6	25	7	5	20
K0383.41035	F	M10	6	35	7	5	20
K0383.41216	F	M12	7,2	16	8,5	6	30
K0383.41220	F	M12	7,2	20	8,5	6	30
K0383.41230	F	M12	7,2	30	8,5	6	30
K0383.41240	F	M12	7,2	40	8,5	6	30
K0383.41620	F	M16	10,7	20	12	8	60
K0383.41625	F	M16	10,7	25	12	8	60
K0383.41635	F	M16	10,7	35	12	8	60
K0383.41650	F	M16	10,7	50	12	8	60

KIPP Ball-end thrust screws without head with flattened steel ball

Order No.	Form	D1	D3	L2	Ball Ø	SW	Load rating max. kN (static load only)
K0383.2046	B	M4	1,4	5,8	2,5	2	3,5
K0383.2048	B	M4	1,4	7,8	2,5	2	3,5
K0383.20410	B	M4	1,4	9,8	2,5	2	3,5
K0383.20412	B	M4	1,4	11,8	2,5	2	3,5
K0383.20416	B	M4	1,4	15,8	2,5	2	3,5
K0383.2058	B	M5	2	7,6	3	2,5	4,5
K0383.20510	B	M5	2	9,6	3	2,5	4,5
K0383.20512	B	M5	2	11,6	3	2,5	4,5
K0383.20516	B	M5	2	15,6	3	2,5	4,5
K0383.20520	B	M5	2	19,6	3	2,5	4,5
K0383.20525	B	M5	2	24,6	3	2,5	4,5
K0383.20610	B	M6	3	10,1	4	3	9
K0383.20612	B	M6	3	12,1	4	3	9
K0383.20616	B	M6	3	16,1	4	3	9
K0383.20620	B	M6	3	20,1	4	3	9
K0383.20625	B	M6	3	25,1	4	3	9
K0383.20650	B	M6	3	50,1	4	3	9
K0383.20660	B	M6	3	60,1	4	3	9
K0383.20680	B	M6	3	80,1	4	3	9
K0383.20810	B	M8	4,1	10,3	5,5	4	10
K0383.20812	B	M8	4,1	12,3	5,5	4	10
K0383.20816	B	M8	4,1	16,3	5,5	4	15
K0383.20820	B	M8	4,1	20,3	5,5	4	15
K0383.20825	B	M8	4,1	25,3	5,5	4	15
K0383.20830	B	M8	4,1	30,3	5,5	4	15
K0383.20850	B	M8	4,1	50,3	5,5	4	15
K0383.20860	B	M8	4,1	60,3	5,5	4	15
K0383.20880	B	M8	4,1	80,3	5,5	4	15
K0383.21012	B	M10	5,6	12,3	7	5	20
K0383.21016	B	M10	5,6	16,3	7	5	20
K0383.21020	B	M10	5,6	20,3	7	5	20
K0383.21025	B	M10	5,6	25,3	7	5	20
K0383.21035	B	M10	5,6	35,3	7	5	20
K0383.21216	B	M12	7	16,2	8,5	6	30
K0383.21220	B	M12	7	20,2	8,5	6	30
K0383.21230	B	M12	7	30,2	8,5	6	30
K0383.21240	B	M12	7	40,2	8,5	6	30
K0383.21620	B	M16	10,7	20	12	8	60
K0383.21625	B	M16	10,7	25	12	8	60
K0383.21635	B	M16	10,7	35	12	8	60
K0383.21650	B	M16	10,7	50	12	8	60
K0383.22030	B	M20	13,5	30	15	10	90
K0383.22040	B	M20	13,5	40	15	10	90
K0383.22060	B	M20	13,5	60	15	10	90
K0383.22435	B	M24	15,8	35	18	12	120
K0383.22450	B	M24	15,8	50	18	12	120
K0383.22480	B	M24	15,8	80	18	12	120

Ball-end thrust screws without head

with flattened ball and rotation lock



Material:

Screw, high-carbon steel, grade 10.9
Ball, ball-bearing steel.

Version:

Screw black.
Ball hardened, bright.

Sample order:

K0383.50820

Note:

Surfaces which are not flat and parallel can be firmly clamped or supported with a flattened ball, the movable ball can adapt itself up to 9°.

Longer versions have been designed especially to be glued in. This enables mechanical connecting elements with male thread to be made cost-effectively for small and medium-sized series.

Drawing reference:

Form BV: flattened ball non-rotating

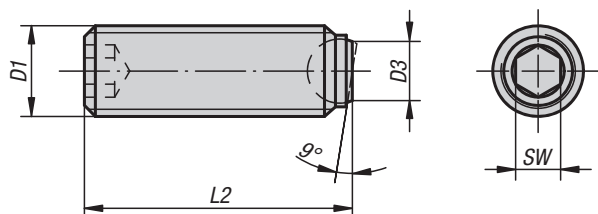
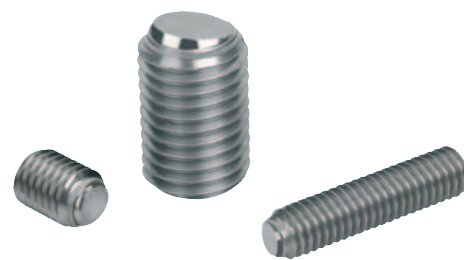
Form FV: flattened ball diamond grip non-rotating

KIPP Ball-end thrust screws without head, with flattened ball and rotation lock

Order No. Form BV	Order No. Form FV	D1	D3	L2	Ball Ø	SW	Load rating max. kN (static load only)
K0383.50612	-	M6	3	12,1	4	3	6
K0383.50616	-	M6	3	16,1	4	3	6
K0383.50620	-	M6	3	20,1	4	3	6
K0383.50625	-	M6	3	25,1	4	3	6
K0383.50816	K0383.60816	M8	4,1	16,3	5,5	4	9
K0383.50820	K0383.60820	M8	4,1	20,3	5,5	4	9
K0383.50825	K0383.60825	M8	4,1	25,3	5,5	4	9
K0383.50830	K0383.60830	M8	4,1	30,3	5,5	4	9
K0383.51020	K0383.61020	M10	5,6	20,3	7	5	12
K0383.51025	K0383.61025	M10	5,6	25,3	7	5	12
K0383.51035	K0383.61035	M10	5,6	35,3	7	5	12
K0383.51040	K0383.61040	M10	5,6	40,2	7	5	12
K0383.51220	K0383.61220	M12	7	20,2	8,5	6	18
K0383.51230	K0383.61230	M12	7	30,2	8,5	6	18
K0383.51240	K0383.61240	M12	7	40,2	8,5	6	18
K0383.51250	K0383.61250	M12	7	50	8,5	6	18
K0383.51635	K0383.61635	M16	10,7	35	12	8	36
K0383.51650	K0383.61650	M16	10,7	50	12	8	36
K0383.52030	K0383.62030	M20	13,5	30	15	10	60
K0383.52040	K0383.62040	M20	13,5	40	15	10	60
K0383.52050	K0383.62050	M20	13,5	50	15	10	60
K0383.52060	K0383.62060	M20	13,5	60	15	10	60
K0383.52435	K0383.62435	M24	15,8	35	18	12	80
K0383.52450	K0383.62450	M24	15,8	50	18	12	80
K0383.52480	K0383.62480	M24	15,8	80	18	12	80

Ball-end thrust screws without head

stainless steel with flattened ball and rotation lock


Material:

Screw and ball stainless steel.

Version:

Stainless steel bright.

Sample order:

K0384.50612

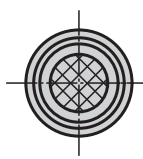
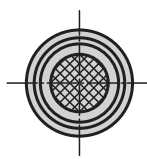
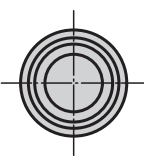
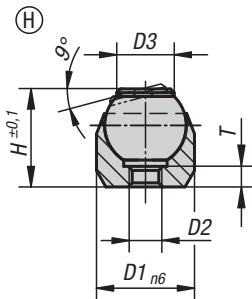
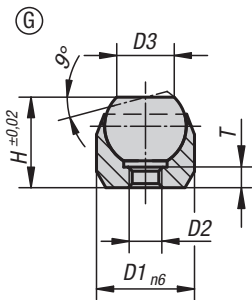
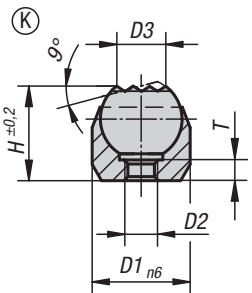
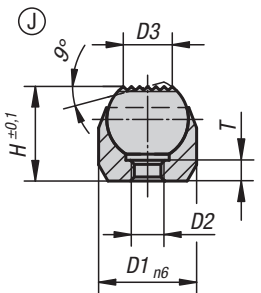
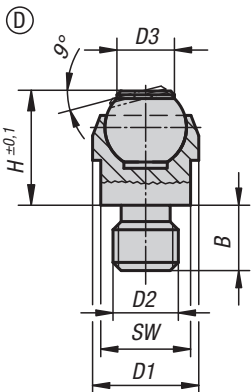
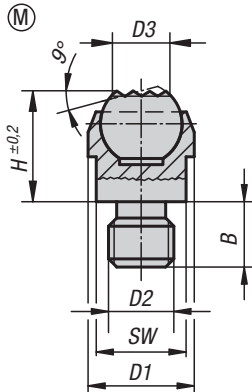
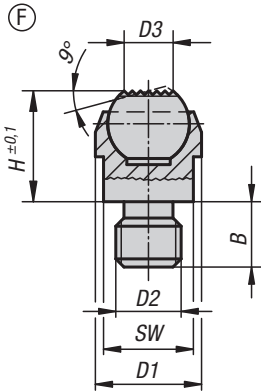
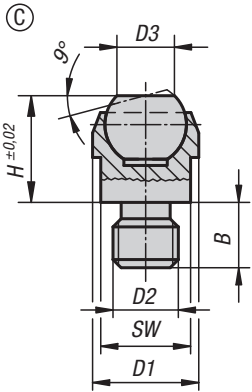
Note:

Surfaces which are not flat and parallel can be firmly clamped or supported with a flattened ball, the movable ball can adapt itself up to 9°. Longer versions have been designed especially to be glued in. This enables mechanical connecting elements with male thread to be made cost-effectively for small and medium-sized series. Ball has rotation lock.

KIPP Ball-end thrust screws without head stainless steel with flattened ball and rotation lock

Order No.	D1	D3	L2	Ball Ø	SW
K0384.50612	M6	3	12,1	4	3
K0384.50616	M6	3	16,1	4	3
K0384.50620	M6	3	20,1	4	3
K0384.50625	M6	3	25,1	4	3
K0384.50816	M8	4,1	16,3	5,5	4
K0384.50820	M8	4,1	20,3	5,5	4
K0384.50825	M8	4,1	25,3	5,5	4
K0384.50830	M8	4,1	30,3	5,5	4
K0384.51020	M10	5,6	20,3	7	5
K0384.51025	M10	5,6	25,3	7	5
K0384.51035	M10	5,6	35,3	7	5
K0384.51040	M10	5,6	40,2	7	5
K0384.51220	M12	7	20,2	8,5	6
K0384.51230	M12	7	30,2	8,5	6
K0384.51240	M12	7	40,2	8,5	6
K0384.51250	M12	7	50	8,5	6
K0384.51635	M16	10,7	35	12	8
K0384.51650	M16	10,7	50	12	8

Self-aligning pads



Material:

Body carbon steel.
 Ball, ball bearing steel 1.2067.
 Form D: Ball with POM insert.
 Form H: Ball with POM insert.
 Form K: Ball with carbide insert.
 Form M has a carbide ball.

Version:

Body tempered and phosphated.
 Ball hardened.
 Form M ball nickel plated.

Sample order:

K0282.120

Note:

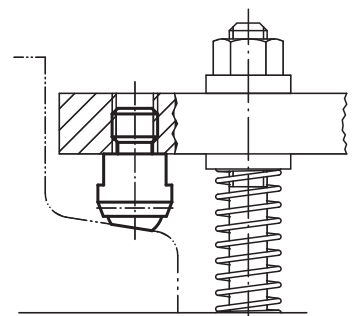
Self-aligning pads serve as stops, supports and thrust pads in fixture constructions.

Ball secured against rotation.

* Valid only if the minimum bore depth is observed.

Drawing reference:

Form C: with male thread, flattened ball, smooth.
 Form D: with male thread, flattened ball, with POM insert.
 Form F: with male thread, flattened ball, diamond grip.
 Form M: with male thread, flattened ball, with carbide insert.
 Form G: press fit, flattened ball, smooth.
 Form H: press fit, flattened ball, with POM insert.
 Form J: press fit, flattened ball, diamond grip.
 Form K: press fit, flattened ball, with carbide insert.

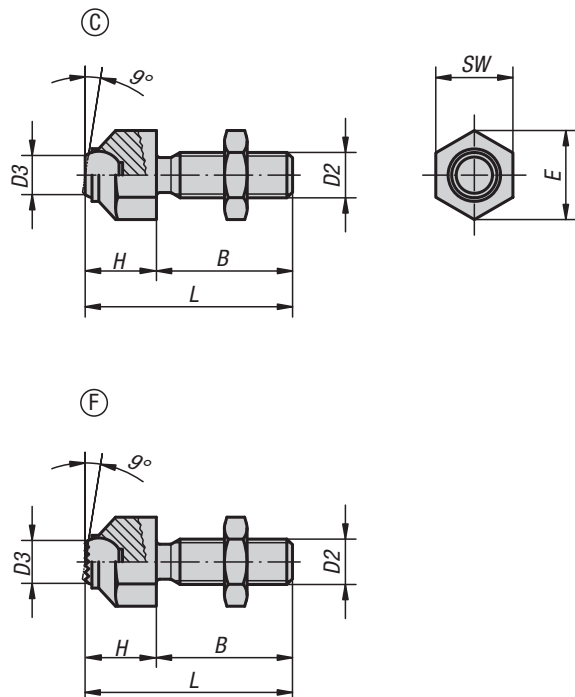


KIPP Self-aligning pads

Order No.	Form	B	D1	D2	D3	H	Ball-Ø	SW	Load rating max. kN (static load only)
K0282.108	C	8	13	M8	7,2	13	10	11	10
K0282.110	C	10	20	M10	10,5	18	16	17	25
K0282.112	C	12	20	M12	10,5	18	16	17	25
K0282.116	C	16	30	M16	20	27	25	27	90
K0282.120	C	20	50	M20	34,5	35	40	41	165
Order No.	Form	B	D1	D2	D3	H	Ball-Ø	SW	Load rating max. kN (static load only)
K0282.208	D	8	13	M8	7,9	13	10	11	10
K0282.210	D	10	20	M10	12,7	18	16	17	25
K0282.212	D	12	20	M12	12,7	18	16	17	25
Order No.	Form	B	D1	D2	D3	H	Ball-Ø	SW	Load rating max. kN (static load only)
K0282.308	F	8	13	M8	7,2	13	10	11	10
K0282.310	F	10	20	M10	10,5	18	16	17	25
K0282.312	F	12	20	M12	10,5	18	16	17	25
K0282.316	F	16	30	M16	20	27	25	27	90
K0282.320	F	20	50	M20	34,5	35	40	41	165
Order No.	Form	B	D1	D2	D3	H	Ball-Ø	SW	Load rating max. kN (static load only)
K0282.908	M	8	13	M8	7,7	13,3	10	11	10
K0282.910	M	10	20	M10	12	18	16	17	25
K0282.912	M	12	20	M12	12	18	16	17	25
Order No.	Form	D1	D2	D3	H	T	Ball-Ø	Receiving hole	Load rating max. kN (static load only)
K0282.403	G	12	M3	7,2	11	3,5	10	Ø 12 H7X6 min.	10*
K0282.404	G	18	M4	10,5	17	4,4	16	Ø 18 H7X8 min.	25*
K0282.405	G	28	M5	20	25	6,3	25	Ø 28 H7X13 min.	90*
Order No.	Form	D1	D2	D3	H	T	Ball-Ø	Receiving hole	Load rating max. kN (static load only)
K0282.503	H	12	M3	7,9	11	3	10	Ø 12 H7X6 min.	10*
K0282.504	H	18	M4	12,7	17	4	16	Ø 18 H7X8 min.	25*
K0282.505	H	28	M5	19,05	25	6	25	Ø 28 H7X13 min.	90*
Order No.	Form	D1	D2	D3	H	T	Ball-Ø	Receiving hole	Load rating max. kN (static load only)
K0282.603	J	12	M3	7,2	11	3,5	10	Ø 12 H7X6 min.	10*
K0282.604	J	18	M4	10,5	17	4,4	16	Ø 18 H7X8 min.	25*
K0282.605	J	28	M5	20	25	6,3	25	Ø 28 H7X13 min.	90*
Order No.	Form	D1	D2	D3	H	T	Ball-Ø	Receiving hole	Load rating max. kN (static load only)
K0282.803	K	12	M3	7,9	11	3	10	Ø 12 H7X6 min.	10*
K0282.804	K	18	M4	12,7	17	4	16	Ø 18 H7X8 min.	25*
K0282.805	K	28	M5	19,05	25	6	25	Ø 28 H7X13 min.	90*

Self-aligning pads

adjustable



Material:
Steel or stainless steel.

Version:
Steel version:
Housing tempered and manganese phosphated.
Nut black oxidised.

Stainless steel version:
Housing tempered and electropolished.
Nut bright.

Sample order:
K0287.316

Note:
Ball secured against rotation.

KIPP Form C, flattened ball, flat face

Order No.	Form	Main material	B	D2	D3	H	L	E	SW	Ball-Ø	Load rating max. kN (static load only)
K0287.108	C	steel	25	M8	5,8	11,6	36,6	14,5	13	8,5	8
K0287.110	C	steel	30	M10	8,6	15,7	45,7	19	17	12	8
K0287.112	C	steel	35	M12	8,6	15,7	50,7	19	17	12	15
K0287.116	C	steel	40	M16	10,5	20,7	60,7	27	24	16	25
K0287.120	C	steel	50	M20	20	27,3	77,3	33	30	25	90
K0287.1081	C	stainless steel	25	M8	5,8	11,6	36,6	14,5	13	8,5	8
K0287.1101	C	stainless steel	30	M10	8,6	15,7	45,7	19	17	12	8
K0287.1121	C	stainless steel	35	M12	8,6	15,7	50,7	19	17	12	15
K0287.1161	C	stainless steel	40	M16	10,5	20,7	60,7	27	24	16	25
K0287.1201	C	stainless steel	50	M20	20	27,3	77,3	33	30	25	90

KIPP Form F, flattened ball, diamond grip

Order No.	Form	Main material	B	D2	D3	H	L	E	SW	Ball-Ø	Load rating max. kN (static load only)
K0287.308	F	steel	25	M8	5,8	11,6	36,6	14,5	13	8,5	8
K0287.310	F	steel	30	M10	8,6	15,7	45,7	19	17	12	8
K0287.312	F	steel	35	M12	8,6	15,7	50,7	19	17	12	15
K0287.316	F	steel	40	M16	10,5	20,7	60,7	27	24	16	25
K0287.320	F	steel	50	M20	20	27,3	77,3	33	30	25	90
K0287.3081	F	stainless steel	25	M8	5,8	11,6	36,6	14,5	13	8,5	8
K0287.3101	F	stainless steel	30	M10	8,6	15,7	45,7	19	17	12	8
K0287.3121	F	stainless steel	35	M12	8,6	15,7	50,7	19	17	12	15
K0287.3161	F	stainless steel	40	M16	10,5	20,7	60,7	27	24	16	25
K0287.3201	F	stainless steel	50	M20	20	27,3	77,3	33	30	25	90

Self-aligning pads

swivel angle 12°



Material:

Body carbon steel.
Ball, ball-bearing steel 1.3505.

Version:

Body tempered.
Ball hardened (50 - 55 HRC).

Sample order:

K0302.106

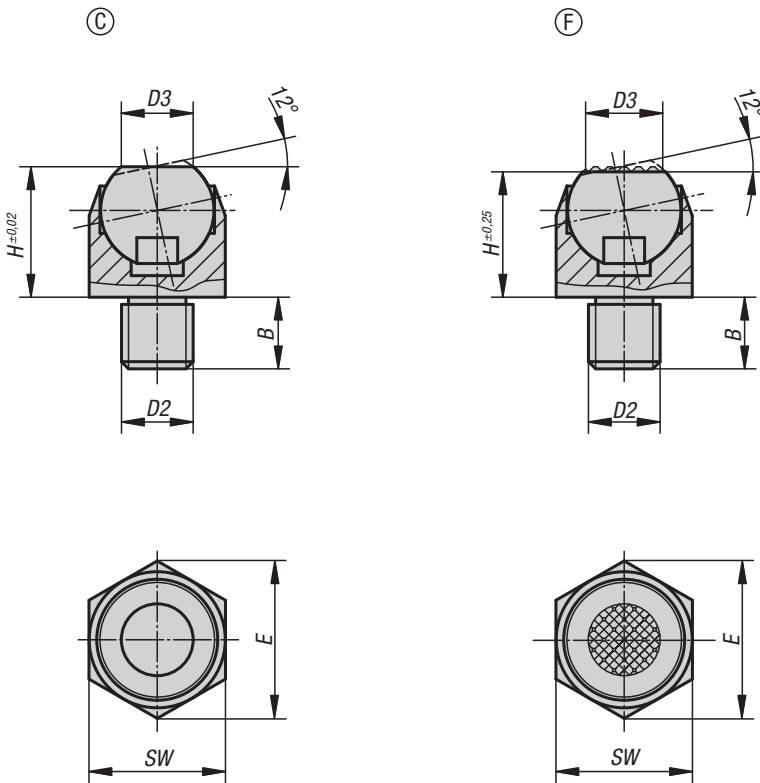
Note:

Self-aligning pads serve as stops, supports and thrust pads in fixture construction.

Ball secured against rotation.

Drawing reference:

Form C: male thread, smooth flattened ball
Form F: male thread, serrated flattened ball

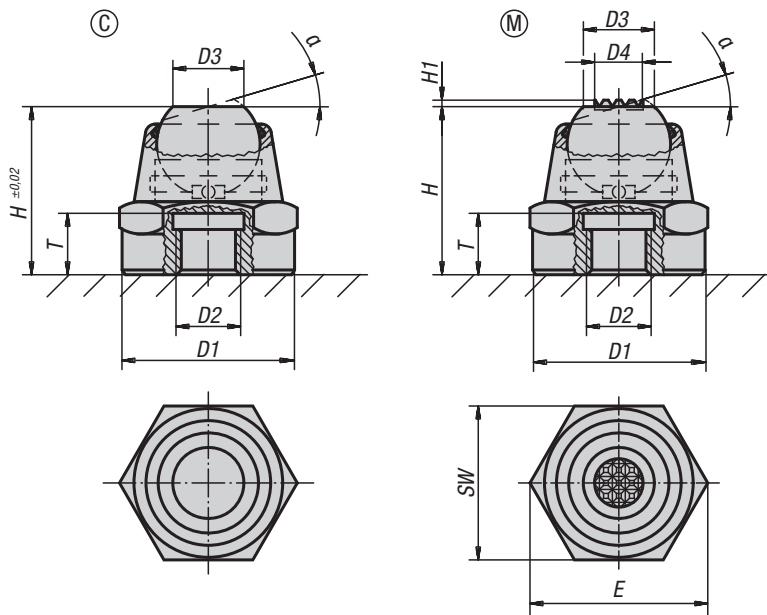


KIPP Self-aligning pads swivel angle 12°

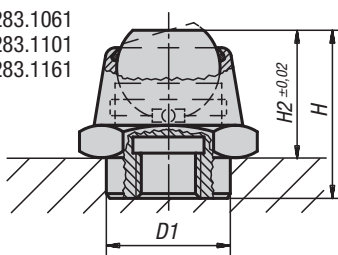
Order No. Form C	Order No. Form F	B	D2	D3	H	E	SW	Ball-Ø	Load rating max. kN (static load only)
K0302.106	K0302.306	7	M6	6,7	13	14,5	13	10	10
K0302.108	K0302.308	8	M8	6,7	13	14,5	13	10	10
K0302.110	K0302.310	10	M10	10	18	21,9	19	16	25
K0302.112	K0302.312	12	M12	10	18	21,9	19	16	25
K0302.116	K0302.316	16	M16	20	27	33	30	24	90
K0302.120	K0302.320	20	M20	20	27	33	30	24	90

Self-aligning pads

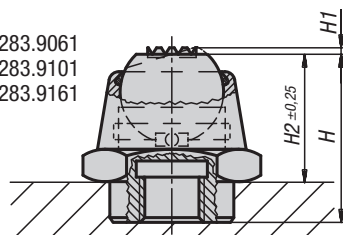
swivel angle 14° and 20°



K0283.1061
K0283.1101
K0283.1161



K0283.9061
K0283.9101
K0283.9161



Material:

Body steel.
Ball rust and acid resistant steel.
Form M with carbide insert.

Version:

Body black oxidised.
Ball bright.

Sample order:

K0283.108

Note:

Self-aligning pads are used to support and clamp unmachined and machined workpieces. They also serve as stops, supports and thrust pads in fixture and toolmaking.
Grub screws or threaded studs can be screwed and glued into thread D3 making a self-aligning pad with external thread.

Ball secured against rotation.

Advantages:

- Self-aligning pads can be swiveled.
- High load forces can be absorbed.
- The built-in o-ring keeps dirt and foreign particles out, which in turn guarantees reliable operation.

Self-aligning pads

swivel angle 14° and 20°



KIPP Form C, flattened ball, flat face

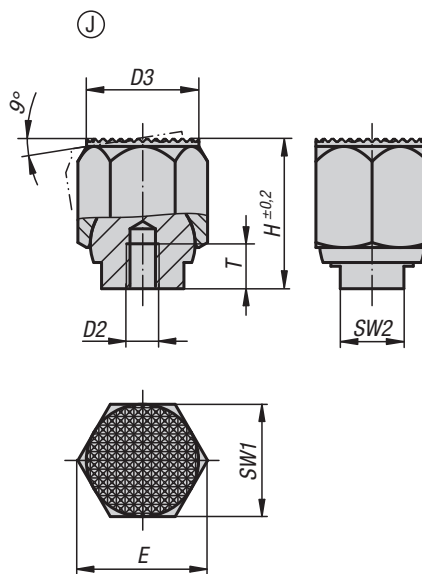
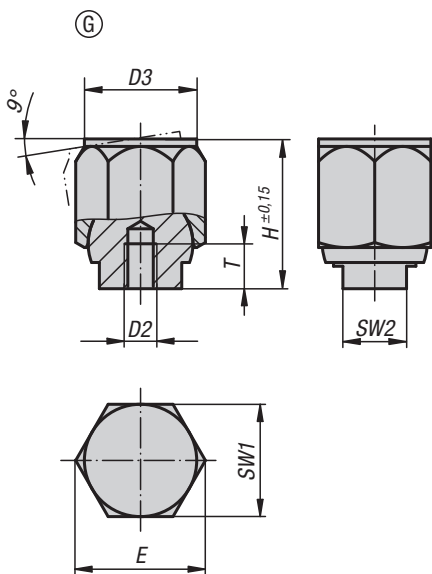
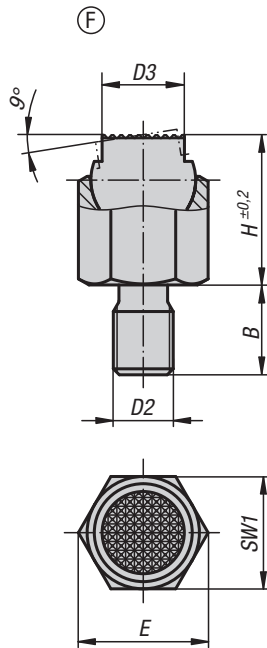
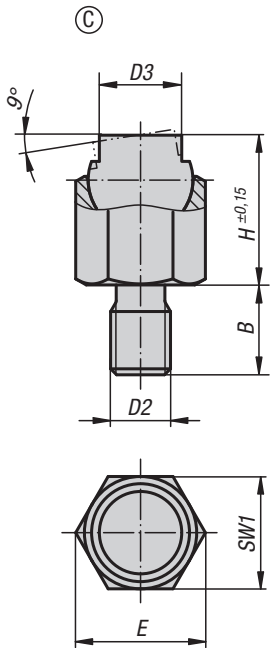
Order No.	Form	α	D1	D2	D3	H	H2	T	E	SW	Ball-Ø	Load rating max. kN (static load only)
K0283.1061	C	14°	12	M6	7	17,5	12,5	6	19,6	17	10	14
K0283.106	C	14°	16	M6	7	17,5	-	6	19,6	17	10	14
K0283.108	C	20°	22	M8	11	26	-	9	27,7	24	16	34
K0283.1101	C	20°	18	M10	11	26	20	9	27,7	24	16	34
K0283.110	C	20°	22	M10	11	26	-	9	27,7	24	16	34
K0283.112	C	20°	22	M12	11	26	-	9	27,7	24	16	34
K0283.1161	C	20°	26	M16	18	40	30	15	41,6	36	25	90
K0283.116	C	20°	34	M16	18	40	-	15	41,6	36	25	90
K0283.120	C	20°	34	M20	18	40	-	15	41,6	36	25	90

KIPP Form M, flattened ball, carbide steel diamond grip

Order No.	Form	α	D1	D2	D3	D4	H	H1	H2	E	T	Ball-Ø	SW	Load rating max. kN (static load only)
K0283.9061	M	14°	12	M6	7	5	17,5	0,6	12,5	19,6	6	10	17	14
K0283.906	M	14°	16	M6	7	5	17,5	0,6	-	19,6	6	10	17	14
K0283.908	M	20°	22	M8	11	7,5	26	0,8	-	27,7	9	16	24	34
K0283.9101	M	20°	18	M10	11	7,5	26	0,8	20	27,7	9	16	24	34
K0283.910	M	20°	22	M10	11	7,5	26	0,8	-	27,7	9	16	24	34
K0283.912	M	20°	22	M12	11	7,5	26	0,8	0,8	27,7	9	16	24	34
K0283.9161	M	20°	26	M16	18	13	40	0,9	30	41,6	15	25	36	90
K0283.916	M	20°	34	M16	18	13	40	0,9	0,9	41,6	15	25	36	90
K0283.920	M	20°	34	M20	18	13	40	0,9	-	41,6	15	25	36	90

Self-aligning pads

self-righting



Material:

Form C and F:
Ball steel, ball seat high-carbon steel.
Form G and J:
Ball high-carbon steel, ball seat steel.

Version:

Form C and F:
Ball hardened and black oxidised, ball seat phosphated.
Form G and J:
Ball phosphated, ball seat hardened and black oxidised.

Sample order:

K1164.106

Note:

The self-aligning pads serve as stops, rests and thrust pads in fixture construction. The seating face returns to the start position when the load is removed.

Ball secured against rotation.

Drawing reference:

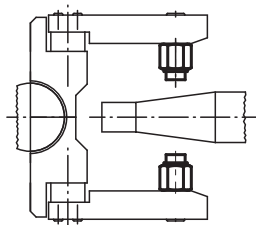
Form C: male thread, flattened ball, smooth
Form F: male thread, flattened ball, diamond grip
Form G: press fit, flattened ball, smooth
Form J: press fit, flattened ball, diamond grip

Self-aligning pads

self-righting

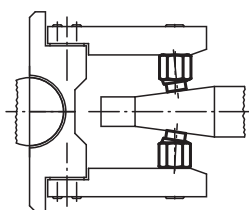


1. bring gripper into position



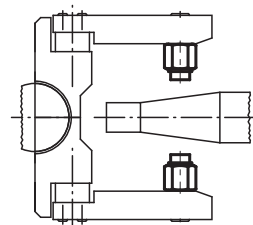
zero-point position of self-aligning pads

2. grip workpiece



self-aligning pads adapt to workpiece contour

3. open gripper



self-aligning pads swivel back automatically

KIPP Self-aligning pads, self-righting

Order No.	Form	B	D2	D3	H	E	SW1	Ball-Ø	Load rating max. kN (static load only)
K1164.106	C	9	M6	7	13	11,5	10	9	8
K1164.108	C	12	M8	9,5	18	15	13	12	16
K1164.110	C	15	M10	14	25	21,9	19	17	32
K1164.112	C	18	M12	20	36	31,2	27	25	64
K1164.116	C	24	M16	22	40	34,6	30	28	90

Order No.	Form	B	D2	D3	H	E	SW1	Ball-Ø	Load rating max. kN (static load only)
K1164.306	F	9	M6	7	13	11,5	10	9	8
K1164.308	F	12	M8	9,5	18	15	13	12	16
K1164.310	F	15	M10	14	25	21,9	19	17	32
K1164.312	F	18	M12	20	36	31,2	27	25	64
K1164.316	F	24	M16	22	40	34,6	30	28	90

Order No.	Form	D2	D3	H	E	T	SW1	SW2	Ball-Ø	Load rating max. kN (static load only)
K1164.403	G	M3	9	13	11,5	5	10	6	9	8
K1164.404	G	M4	12	18	15	6	13	8	12	16
K1164.405	G	M5	18	25	21,9	8	19	10	17	32
K1164.406	G	M6	26	36	31,2	10	27	16	25	64
K1164.408	G	M8	30	40	34,6	12	30	17	28	90

Order No.	Form	D2	D3	H	E	T	SW1	SW2	Ball-Ø	Load rating max. kN (static load only)
K1164.603	J	M3	9	13	11,5	5	10	6	9	8
K1164.604	J	M4	12	18	15	6	13	8	12	16
K1164.605	J	M5	18	25	21,9	8	19	10	17	32
K1164.606	J	M6	26	36	31,2	10	27	16	25	64
K1164.608	J	M8	30	40	34,6	12	30	17	28	90

Self-aligning pads

self-righting



Material:
Carbon steel.

Version:
Hardened, black oxidised.

Sample order:
K0286.105

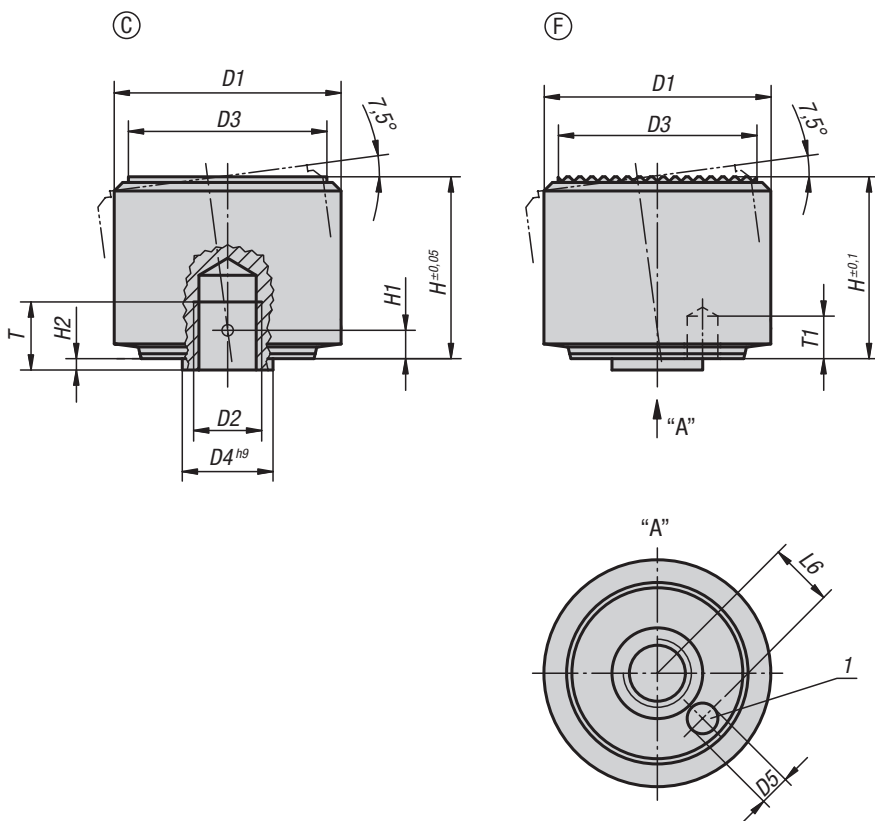
Note:
Self-aligning pads are used to support and clamp unmachined and machined workpieces. They also serve as stops, supports and thrust pads in fixtures and toolmaking.

Advantages:

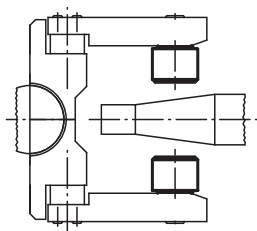
- The built-in O-ring prevents dirt and foreign particles from entering.
- The clamping surface swivels back automatically after clamping.
- High load rating and small size.

Drawing reference:
Form C: smooth face
Form F: serrated face

1) Hole for pin as a rotation lock

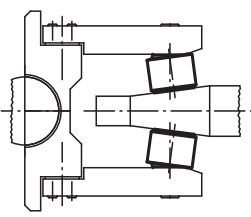


1. bring gripper into position



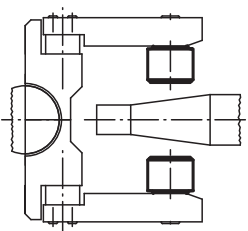
zero-point position of self-aligning pads

2. grip workpiece



self-aligning pads adapt to workpiece contour

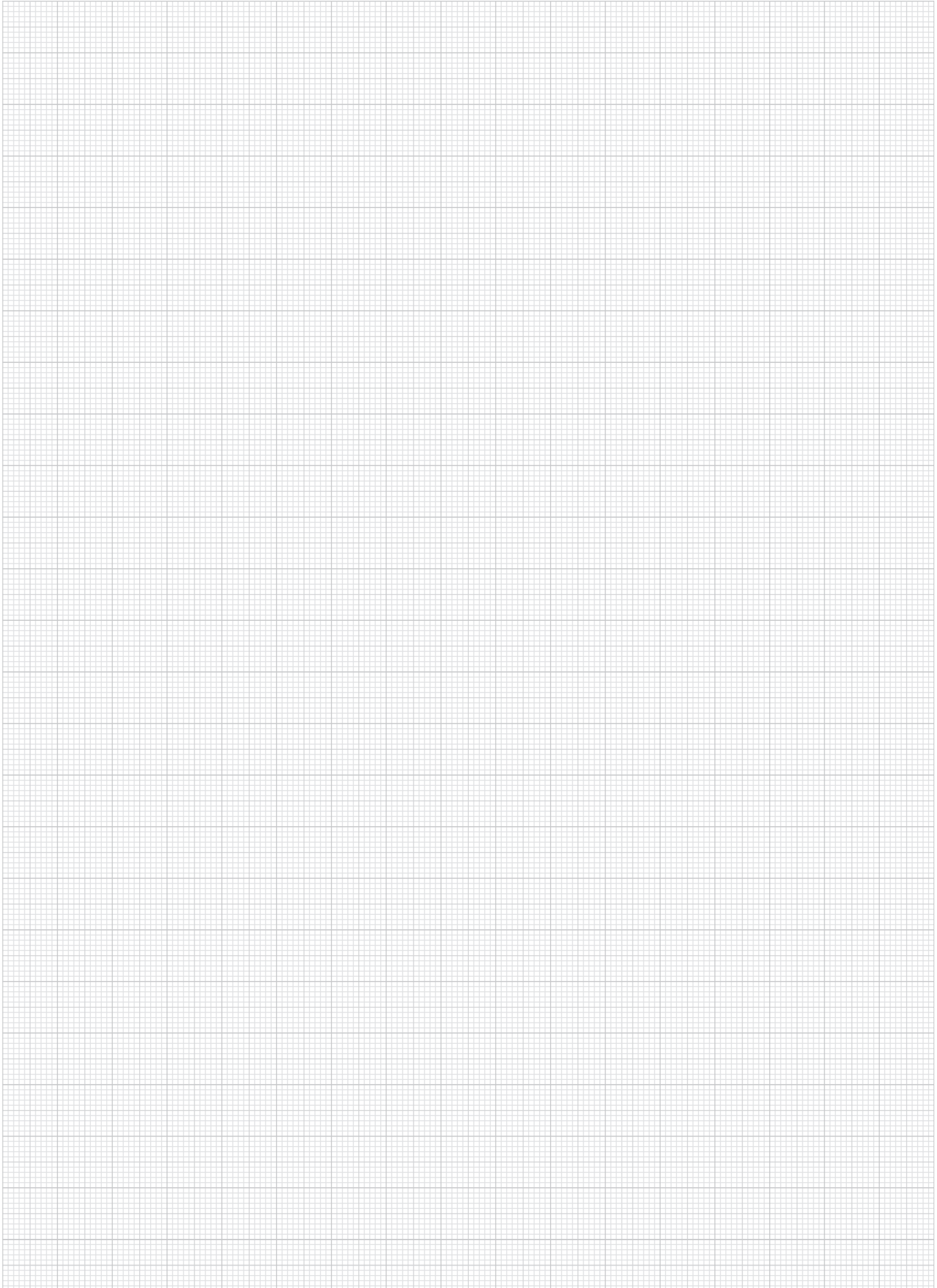
3. open gripper



self-aligning pads swivel back automatically

KIPP Self-aligning pads self-righting

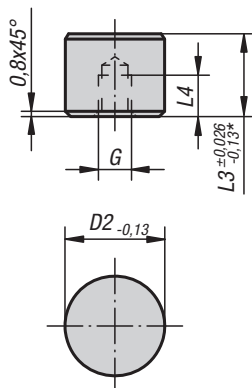
Order No.	Form	D1	D2	D3	D4	D5	H	H1	H2	T	T1	L6	Load rating max. kN (static load only)
K0286.105	C	18	M5	15	7	1,8	14	2,1	0,8	5	3	4,6	30
K0286.106	C	22	M6	18	8	2,8	16,5	2,5	1	6	4	5,6	50
K0286.108	C	28	M8	23	11	3,3	21,5	3,4	1,3	8	5	7,5	90
K0286.110	C	34	M10	29	13	4,4	27	4,2	1,6	10	6	9,2	140
K0286.112	C	40	M12	35	16	5,4	32	5	2	12	8	11,3	220
K0286.305	F	18	M5	15	7	1,8	14	2,1	0,8	5	3	4,6	30
K0286.306	F	22	M6	18	8	2,8	16,5	2,5	1	6	4	5,6	50
K0286.308	F	28	M8	23	11	3,3	21,5	3,4	1,3	8	5	7,5	90
K0286.310	F	34	M10	29	13	4,4	27	4,2	1,6	10	6	9,2	140
K0286.312	F	40	M12	35	16	5,4	32	5	2	12	8	11,3	220



Grippers and inserts round

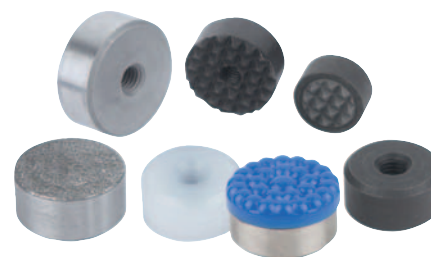
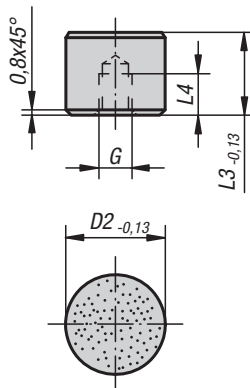


Form C, E, K



* Applies to Form K

Form O
stainless steel insert
diamond impregnated



Material:

Form C, F, M tool steel
Form E, O, P stainless steel
Form K POM

Version:

Form C hardened and black oxidised.
Form E hardened, bright.
Form K white.
Form O with diamond impregnated surface comparable to 100 grade abrasive grit.
Form P with polyurethane surface, hardness Shore 60.
Form F, hardened and black oxidised.
Form M with carbide serrations, black oxidised.

Sample order:

K0385.2510

Note:

Grippers and inserts are ideal for use in clamping arms, gripping systems, clamping fixtures, clamping jaws and self-aligning pads. The use of grippers allows the transfer of very high torque values and above average grip, even with hard materials and surface irregularities.

Form O: The abrasive diamond surface is bonded firmly to the base. It is ideally suited to supporting smooth or slippery applications with a minimum of clamping pressure. This allows the diamond particles to get a firm grip on a very small area with minimum damage to the surface.

The diamond surface offers excellent wear resistance.

Form P: The polyurethane surface is vulcanised firmly to the ball. It is abrasion-resistant and does not discolour. It offers optimum protection against damage to delicate surfaces. The pearl-like surface gives a firm grip and allows air to escape so as to prevent any suction effect between the contact surface and the self-aligning pads.

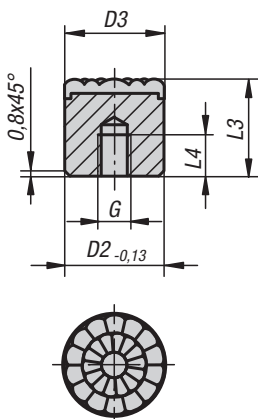
Grippers and inserts can be fitted in the following self-aligning pads:

Order No. K0285.117X022 up to K0285.936X036

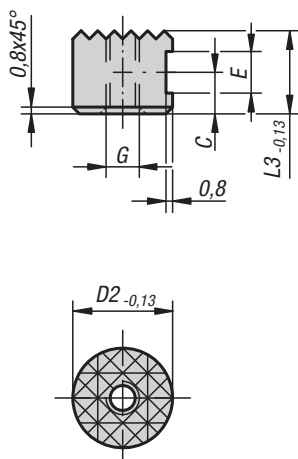
Order No. K0289.110X015 up to K0289.924X100

Order No. K0291.120X030 up to K0291.924X080

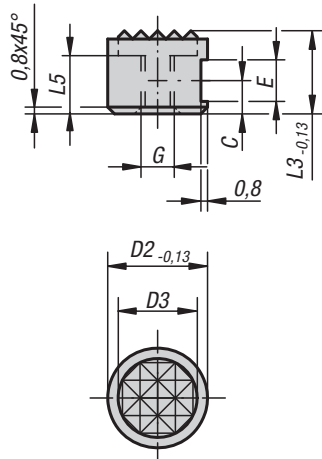
Form P
stainless steel insert,
PUR surface

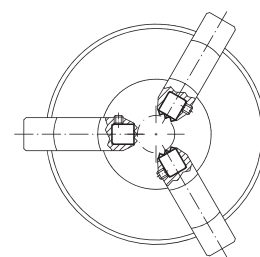


Form F
diamond grip insert



Form M
carbide steel
diamond grip insert





KIPP Round inserts Form C, E, K, O

Order No. Form C	Order No. Form E	Order No. Form K	Order No. Form O	D2	L3	L4	G
K0385.10108	K0385.10102	K0385.10109	K0385.10105	10	10	5	M5
K0385.10128	K0385.10122	K0385.10129	K0385.10125	10	12	6,4	M5
K0385.12108	K0385.12102	K0385.12109	K0385.12105	12	10	5	M5
K0385.12128	K0385.12122	K0385.12129	K0385.12125	12	12	6,4	M5
K0385.16108	K0385.16102	K0385.16109	K0385.16105	16	10	5	M6
K0385.16128	K0385.16122	K0385.16129	K0385.16125	16	12	6,4	M6
K0385.20108	K0385.20102	K0385.20109	K0385.20105	20	10	5	M6
K0385.20128	K0385.20122	K0385.20129	K0385.20125	20	12	6,4	M6
K0385.25108	K0385.25102	K0385.25109	K0385.25105	25	10	5	M6
K0385.25128	K0385.25122	K0385.25129	K0385.25125	25	12	6,4	M6

KIPP Round inserts Form P

Order No.	Form	D2	D3	L3	L4	G
K0385.08126	P	8	8	12	6	M4
K0385.10126	P	10	10	12	6	M5
K0385.12126	P	12	13	12	6	M5
K0385.16126	P	16	16	12	6	M6
K0385.20126	P	20	21	12	6	M6
K0385.25126	P	25	27	12	6	M6

KIPP Grippers Form F, M

Order No. Form F	Order No. Form M	D2	D3	L3	L5	C	E	G
K0385.1010	K0385.10107	10	-7,9	10	-6	4,5	4,75	M5
K0385.1210	K0385.12107	12	-9,5	10	-6	4,5	4,75	M5
K0385.1212	K0385.12127	12	-9,5	12	-7	6	4,75	M5
K0385.1610	K0385.16107	16	-12,7	10	-6	4,5	4,75	M6
K0385.2010	K0385.20107	20	-15,9	10	-6	4,5	4,75	M6
K0385.2510	K0385.25107	25	-19	10	-6	4,5	4,75	M6

Grippers and inserts

round, with counterbore



Material:

Form C, F tool steel
Form E, O stainless steel
Form K POM

Version:

Form C, F hardened and black oxidised.
Form E, hardened, bright.
Form K white.
Form O with diamond impregnated surface comparable to 100 grade abrasive grit.

Sample order:

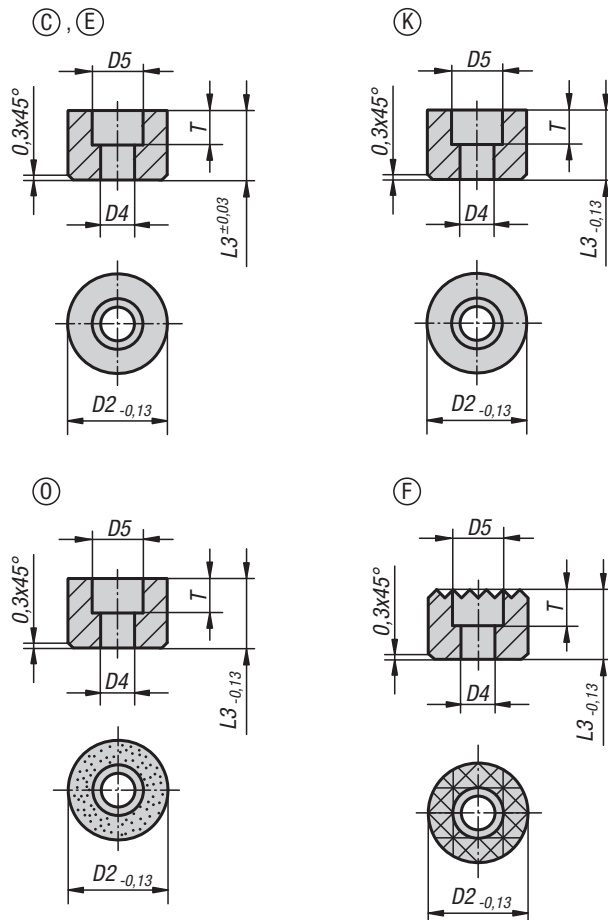
K0385.110108

Note:

Grippers and inserts are ideal for use in clamping arms, gripping systems, clamping fixtures, clamping jaws and self-aligning pads. The use of grippers allows the transfer of very high torque values and above average grip, even with hard materials and surface irregularities.

Form O: The abrasive diamond surface is bonded firmly to the base. It is ideally suited to supporting smooth or slippery applications with a minimum of clamping pressure. This allows the diamond particles to get a firm grip on a very small area with minimum damage to the surface.

The diamond surface offers excellent wear resistance.



Grippers and inserts

round, with counterbore



KIPP Round inserts

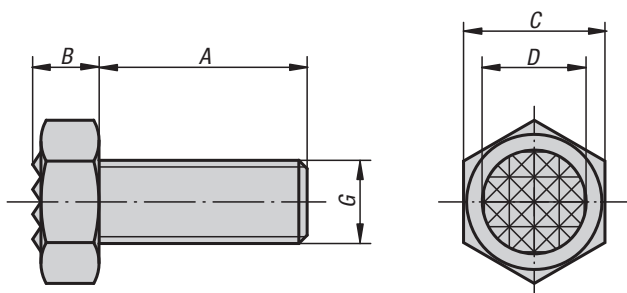
Order No. Form C	Order No. Form E	Order No. Form K	Order No. Form O	D2	D4	D5	L3	T
K0385.110108	K0385.110102	K0385.110109	K0385.110105	10	3,4	6	10	5
K0385.110128	K0385.110122	K0385.110129	K0385.110125	10	3,4	6	12	5
K0385.112108	K0385.112102	K0385.112109	K0385.112105	12	4,5	9	10	5,6
K0385.112128	K0385.112122	K0385.112129	K0385.112125	12	4,5	9	12	5,6
K0385.116108	K0385.116102	K0385.116109	K0385.116105	16	5,5	11	10	6,6
K0385.116128	K0385.116122	K0385.116129	K0385.116125	16	5,5	11	12	6,6
K0385.120108	K0385.120102	K0385.120109	K0385.120105	20	6,6	11	10	7,6
K0385.120128	K0385.120122	K0385.120129	K0385.120125	20	6,6	11	12	7,6
K0385.125108	K0385.125102	K0385.125109	K0385.125105	25	6,6	11	10	7,6
K0385.125128	K0385.125122	K0385.125129	K0385.125125	25	6,6	11	12	7,6

KIPP Round grippers

Order No. Form F	D2	D4	D5	L3	T
K0385.11210	12	4,5	8	10	5,6
K0385.11212	12	4,5	8	12	5,6
K0385.11610	16	4,5	8	10	5,6
K0385.11612	16	4,5	8	12	5,6
K0385.12010	20	5,5	10	10	6,6
K0385.12012	20	5,5	10	12	6,6
K0385.12510	25	6,6	11	10	7,6
K0385.12512	25	6,6	11	12	7,6

Gripper screws

hexagonal



Material:
Hex head screw, grade 10.9.
Serrations carbide, hardness 72-74 HRC.

Version:
Black oxidised.

Sample order:
K0386.1710

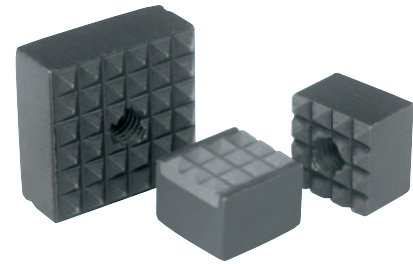
Note:
The serrated carbide tips are soldered in.

KIPP Grippers hexagonal

Order No.	A	B	C	D	G	Serration
K0386.1006	25	5	10	7,9	M6	extra fine
K0386.1308	25	6,4	13	9,5	M8	fine
K0386.1710	25	8,3	17	12,7	M10	fine
K0386.17102	40	8,3	17	12,7	M10	fine
K0386.1912	25	8,7	19	15,9	M12	fine
K0386.19122	40	8,7	19	15,9	M12	fine
K0386.2416	35	11	24	19	M16	fine
K0386.24162	50	11	24	19	M16	fine
K0386.3020	40	13,7	30	25,4	M20	extra fine
K0386.30202	60	13,7	30	25,4	M20	extra fine

Gripper pads

square



Material:
Hardened tool steel or carbide.

Version:
Black oxidised.

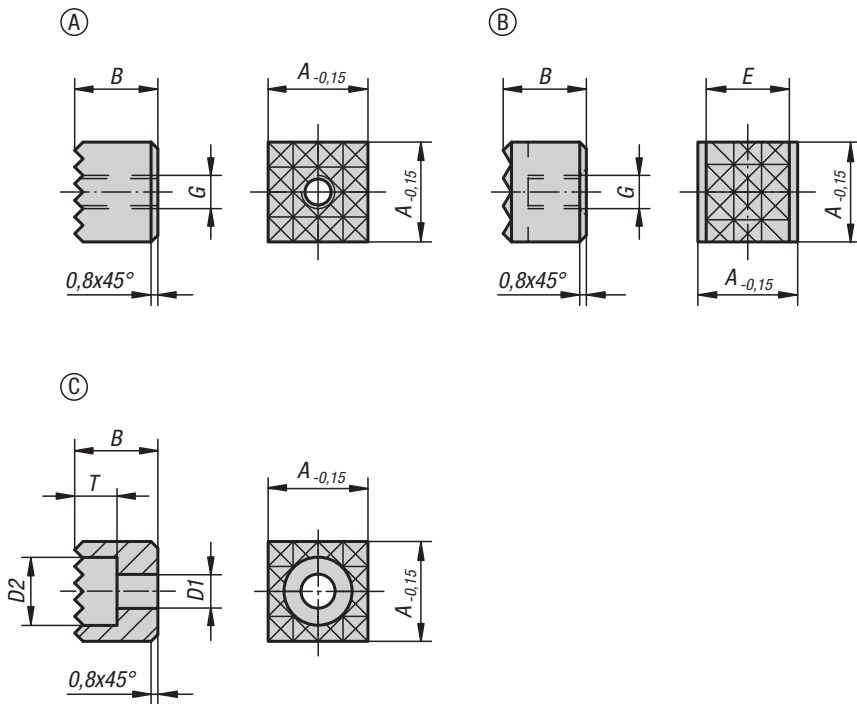
Sample order:
K0387.2506

Note:
Grippers and inserts are ideal for use in clamping arms, gripping systems, clamping fixtures, clamping jaws and self-aligning pads. Grippers transfer very high torque values, even with hard materials and surface irregularities. Grippers guarantee above average holding forces at high cutting forces.

The serrated carbide tips are soldered in.

Drawing reference:

Form A: tool steel
Form B: tool steel, carbide diamond grip
Form C: tool steel



KIPP Gripper pads, square

Order No.	Form	A	B	D1	D2	E	G	T	Serration
K0387.101205	A	10	12	-	-	-	M5	-	extra fine
K0387.121205	A	12	12	-	-	-	M5	-	fine
K0387.2005	A	20	10	-	-	-	M5	-	fine
K0387.2506	A	25	10	-	-	-	M6	-	fine
K0387.1005	A	10	10	-	-	-	M5	-	extra fine
K0387.1606	A	16	10	-	-	-	M6	-	fine
K0387.161206	A	16	12	-	-	-	M6	-	fine
K0387.251206	A	25	12	-	-	-	M6	-	fine
K0387.201205	A	20	12	-	-	-	M5	-	fine
K0387.1205	A	12	10	-	-	-	M5	-	fine
K0387.12057	B	12	10	-	-	10,3	M5	-	fine
K0387.2012058	C	20	12	5,5	10	-	-	6,6	fine
K0387.1210048	C	12	10	4,5	8	-	-	5,6	fine
K0387.1610048	C	16	10	4,5	8	-	-	5,6	fine
K0387.2010058	C	20	10	5,5	10	-	-	6,6	fine
K0387.1212048	C	12	12	4,5	8	-	-	5,6	fine
K0387.2510068	C	25	10	6,6	11	-	-	7,6	fine
K0387.2512068	C	25	12	6,6	11	-	-	7,6	fine
K0387.1612048	C	16	12	4,5	8	-	-	5,6	fine

Gripper studs



Material:
Hardened tool steel or carbide.

Version:
Black oxidised.

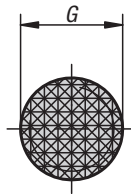
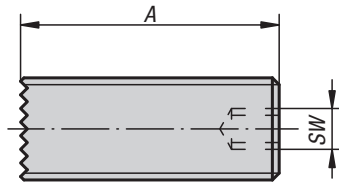
Sample order:
K0388.5012

Note:
The full thread on the grippers allows exact adjustment to the clamping application.
The carbide tips are soldered in.

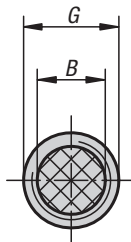
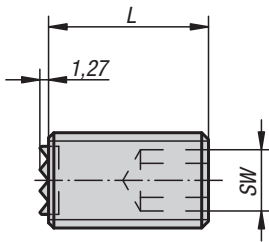
Drawing reference:
Form A: tool steel
Form B: tool steel, carbide diamond grip
Form C: 4-point carbide insert



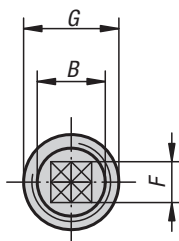
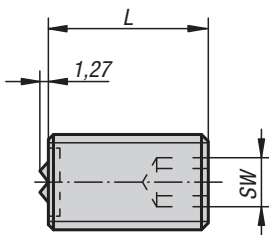
(A)



(B)



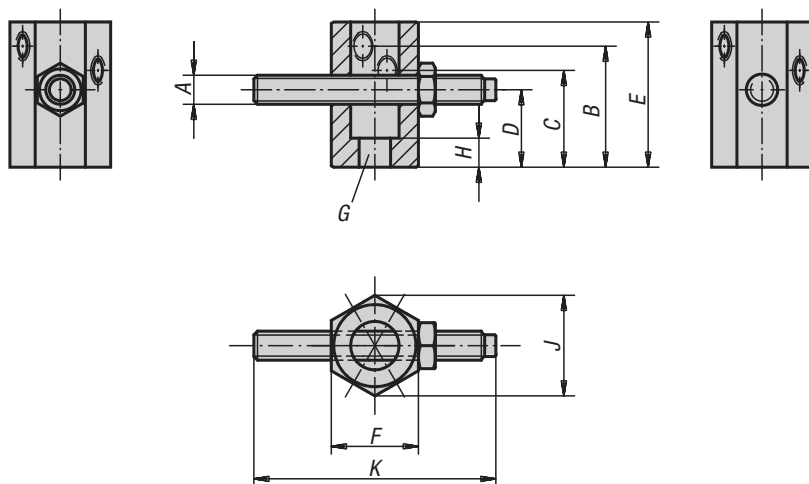
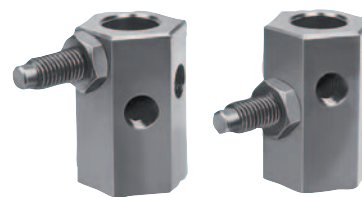
(C)



KIPP Gripper studs

Order No.	Form	A	L	B	G	F	SW
K0388.4010	A	40	-	-	M10	-	3
K0388.4012	A	40	-	-	M12	-	5
K0388.4016	A	40	-	-	M16	-	6
K0388.4020	A	40	-	-	M20	-	8
K0388.2510	B	-	25	6,4	M10	-	5
K0388.5010	B	-	50	6,4	M10	-	5
K0388.2512	B	-	25	7,9	M12	-	6
K0388.5012	B	-	50	7,9	M12	-	6
K0388.2516	B	-	25	11,2	M16	-	8
K0388.5016	B	-	50	11,2	M16	-	8
K0388.2520	B	-	25	12,7	M20	-	10
K0388.5020	B	-	50	12,7	M20	-	10
K0388.25124	C	-	25	7,9	M12	6,5	6
K0388.50124	C	-	50	7,9	M12	6,5	6
K0388.25164	C	-	25	11,2	M16	8	8
K0388.50164	C	-	50	11,2	M16	8	8
K0388.25204	C	-	25	12,7	M20	8	10
K0388.50204	C	-	50	12,7	M20	8	10

Adjustable stops



Material:

Body and set screw carbon steel.

Version:

Body black oxidised.

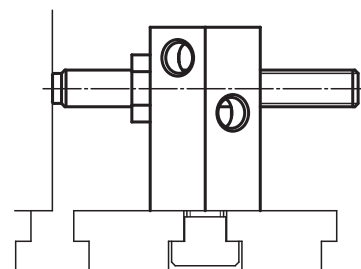
Set screw tempered and black oxidised.

Sample order:

K0813.16063

Note:

The adjustable stops have three tapped holes to accept the set screws.

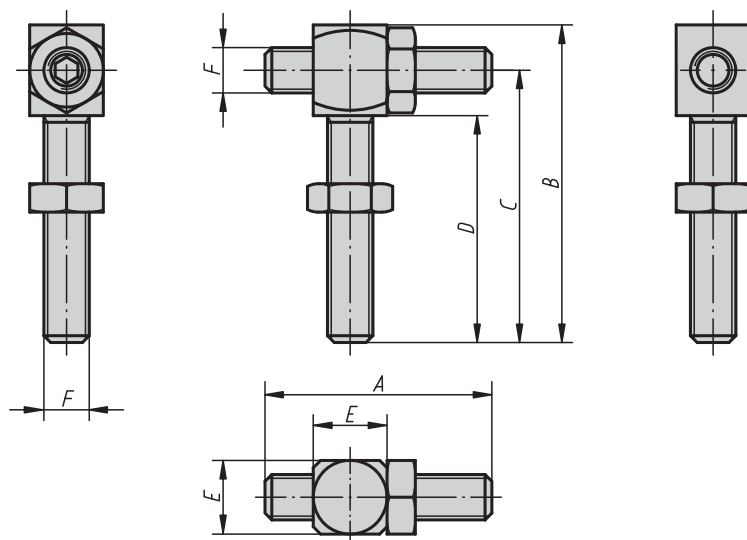


KIPP Adjustable stops

Order No.	A	B	C	D	E	F	G hole for DIN 912 cap screw	H	J	K
K0813.08032	M8	32	25	20	40	21	M8	7	24,3	50
K0813.12050	M12	50	40	32	60	36	M12	12	41,6	100
K0813.16063	M16	63	50	40	80	46	M16	16	53,1	100

Screw stop

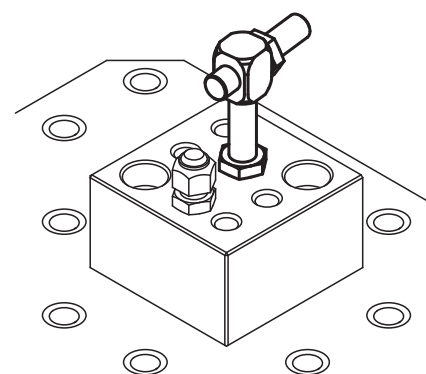
adjustable



Material:
Carbon steel, tempered.

Version:
Black oxidised.

Sample order:
K0820.10



KIPP Screw stop adjustable

Order No.	A	B	C	D	E	F
K0820.06	30	44	37	30	10	M6
K0820.08	40	56	48	40	13	M8
K0820.10	50	70	60	50	17	M10
K0820.12	60	84	72	60	19	M12
K0820.16	80	112	96	80	24	M16

5D workpiece stops

**Material:**

Clamping joint high-tensile aluminium.
Hinge pin, support plate and stop bar, steel.

Version:

Clamping joint anodised blue and black.
Hinge pins, support plate and stop bar black oxidised.

Sample order:

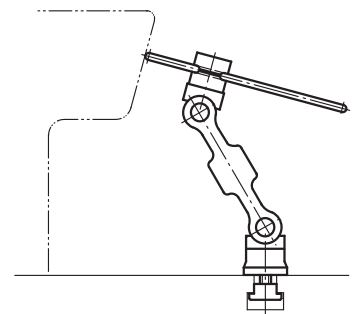
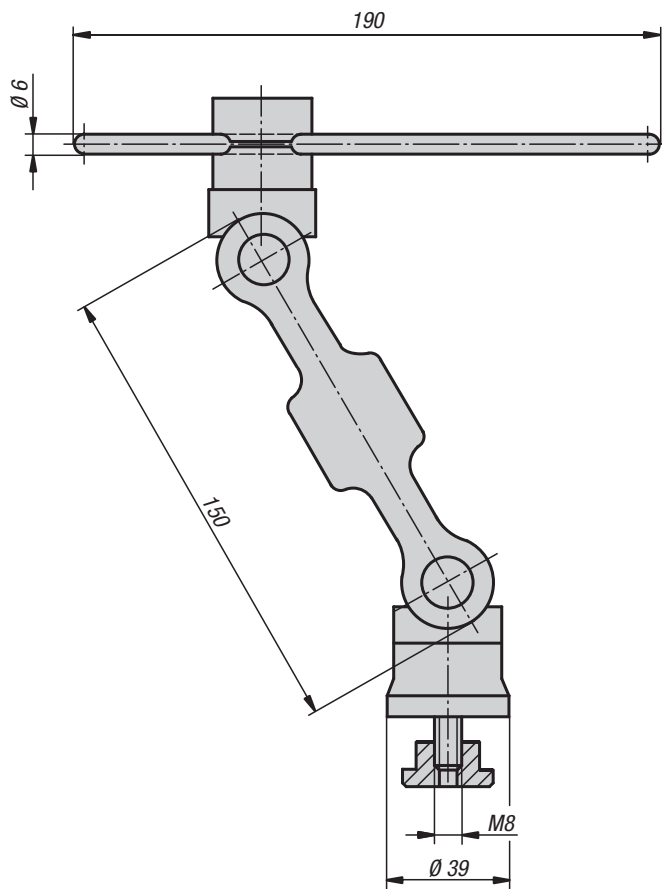
K1234.15012

Note:

The 5D-swivelling stop serves, among other things, as a versatile instrument for positioning on machining tools or for assembly work. It is infinitely adjustable, quickly and flexibly in 5 axes.
Supplied complete with M8x12 T-slot nut and hex key.

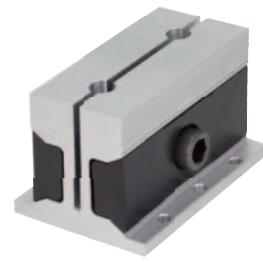
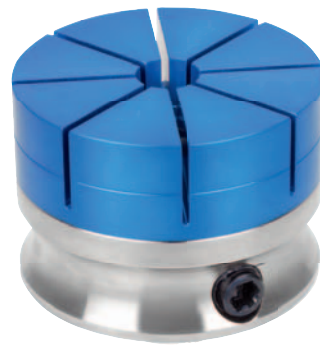
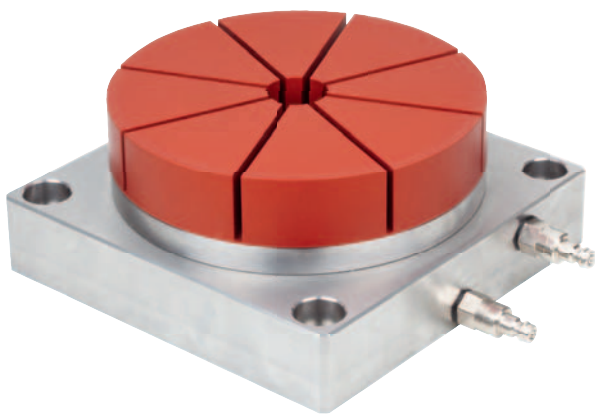
On request:

Connecting element for combining several 5D-swivelling stops.

**KIPP 5D workpiece stops**

Order No.	Size
K1234.15012	150

Form holding systems



Technical information for machinable collet systems

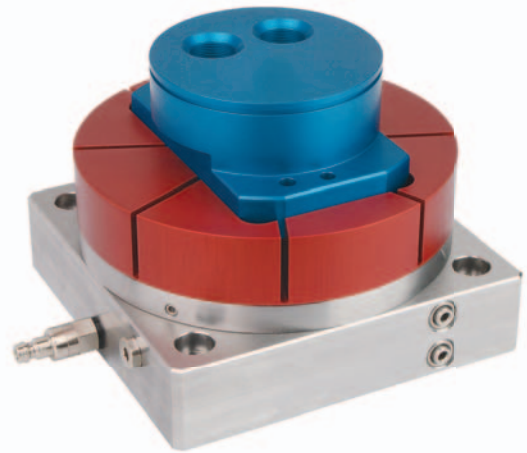


The clamping system for prototypes, samples and small to medium production series.

The machinable collet system consists of a base element with a flange plate and the machinable collet. To clamp a wide variety of workpieces only the collet needs to be exchanged, the base element with flange plate remain the same. Standard aluminium collet blanks are used for clamping workpieces. The contour of the workpiece to be clamped is machined into this collet blank.

Both external and internal contours can be clamped with the machinable collet system. Different collets for internal and external clamping are available for this purpose.

The integrated spring package generates a clamping force of 5.8 kN. The clamping force can be raised to 43.5 kN by pneumatic post-clamping.



Machinable collets for workpieces that couldn't otherwise be clamped

- whether geometrical or free-form: you have full control of the most difficult workpiece contours
- can be set up on grid plates, T-slot plates and your own fixtures
- clamping range of 25 - 140 mm and workpiece weights up to 25 kg
- clamps rough parts, machined parts, round and irregular-shaped parts
- low clamping depth of 1 mm can be achieved
- designed for external and internal clamping
- repeat accuracy of < 0.01 mm

Machinable collet clamping and holding force

spring release pressure	spring clamping force	spring retaining force	post-clamping pressure	post-clamping force	post-clamping retaining force
6 bar	5.81 kN	2.8 kN	6 bar	13.39 kN	10.39 kN
6 bar	5.81 kN	2.8 kN	12 bar	20.93 kN	17.93 kN
6 bar	5.81 kN	2.8 kN	30 bar	43.55 kN	40.55 kN

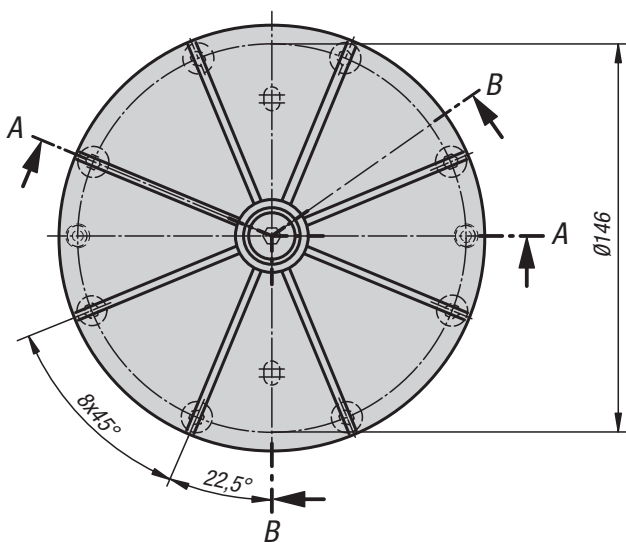
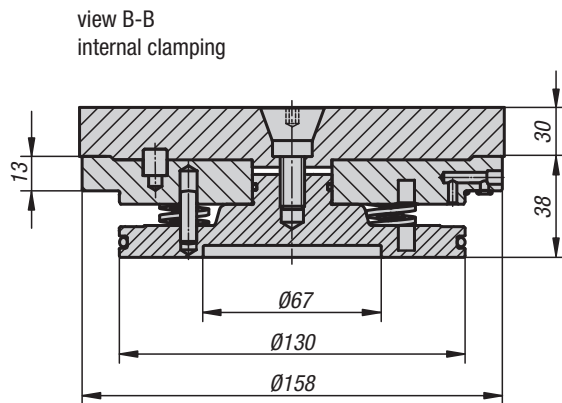
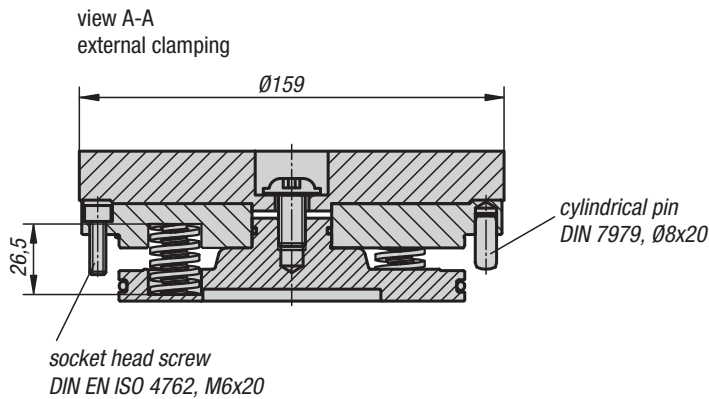
Machinable collet - system construction

pos.	description	piece
1	collet	1
2	flange plate	1
3	piston	1
4	spring package	8
5	screw / tension cone	2
6	base element	1

P1	Release collet with compressed air pistol connection
P2	Post-clamp with compressed air pistol connection

Machinable collet system

for self-installation



Material:

Flange plate, pistons and body steel.
Seals NBR.
Screws DIN EN ISO 4762 grade 8.8.
Collet aluminium.

Version:

Flange plate, piston and body rust-resistant, bright.
Screws electro zinc-plated.
Collet red or clear anodised.

Sample order:

K0500.116030

Note:

The machinable collet system is suitable for mounting on fixtures and clamping systems. Collets for external and internal clamping can be mounted on the flange plate. The contour of the workpiece to be clamped is machined into the collet. Free-form and asymmetrical contours can be clamped.

The integrated spring package generates a clamping force of 5.8 kN. The clamping force can be raised to 43.5 kN by pneumatic post-clamping. The clamp is released by blowing compressed air onto the lower piston surface pushing the piston upwards and releasing the clamping force on the collet. Clamping travel 0.2 mm. Repeat accuracy < 0.01 mm.

Installation dimensions on request.

Accessories:

Collet for external or internal clamping K0502



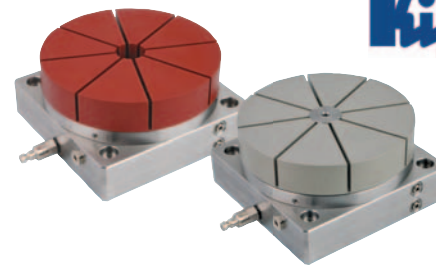
Illustration without collet with transport lock

KIPP Machinable collet system for self-installation

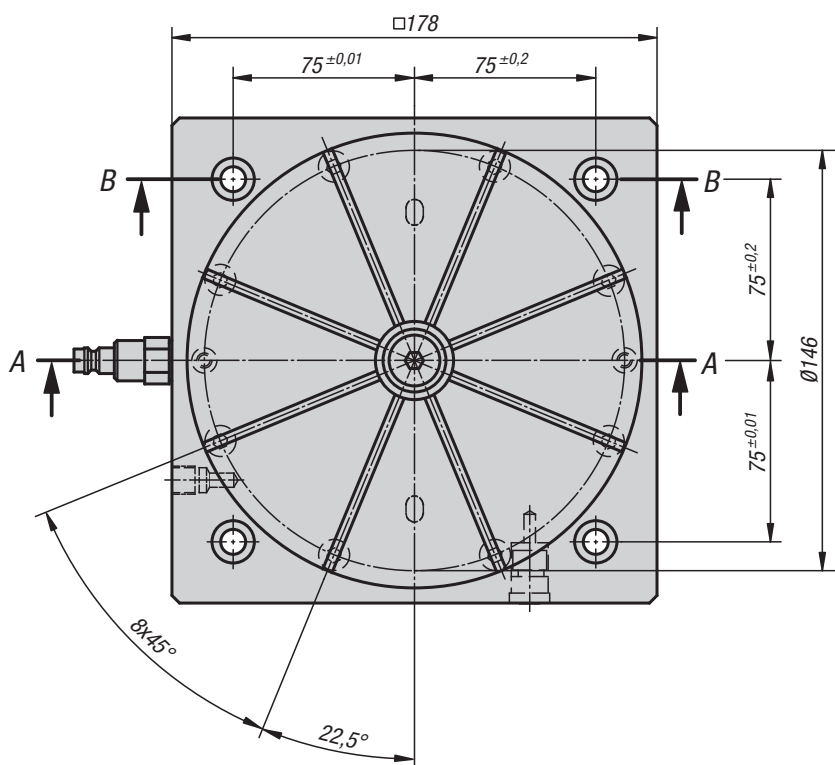
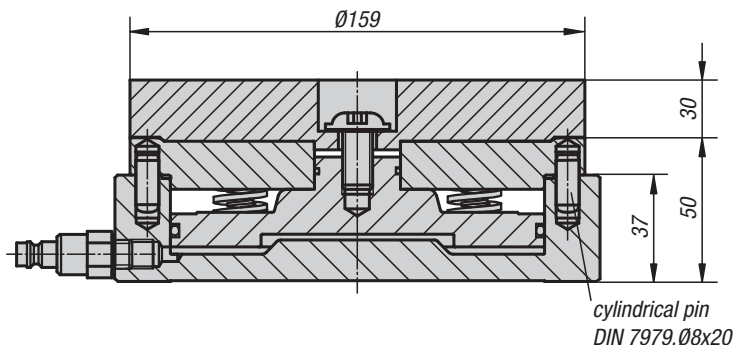
Order No.	Version	Clamping range min. - max.	Milling depth min./max.	Workpiece weight max. (kg)
K0500.116030	external clamping	$\varnothing 30 - \varnothing 140$	1-20	25
K0500.216030	internal clamping	$\varnothing 30 - \varnothing 140$	1-20	25

Machinable collet system

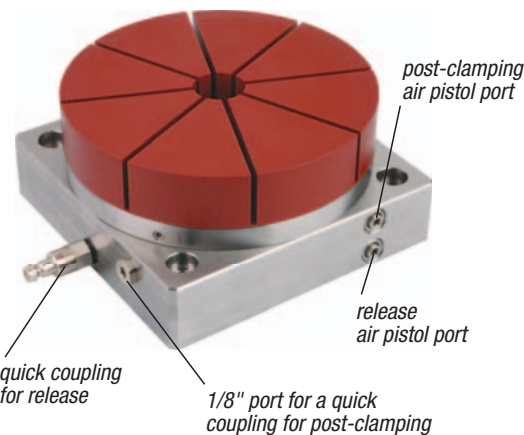
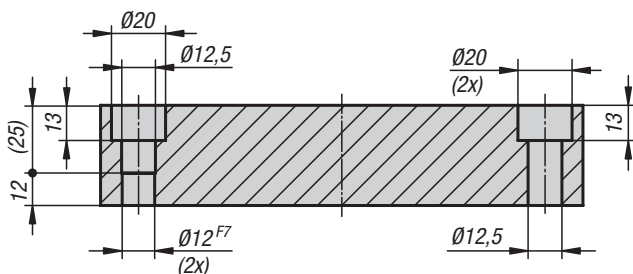
for grid plates



view A-A



view B-B
(base only)



Material:

Flange plate, pistons and body steel.
Seals NBR.
Screws DIN EN ISO 4762 grade 8.8.
Collet aluminium.

Version:

Flange plate, piston and body rust-resistant, bright.
Screws electro zinc-plated.
Collet red or clear anodised.

Sample order:

K0501.11603050

Note:

Machinable collet system with base plate for mounting on 50mm pitch grid plates. The flange plate can be used for external or internal clamping collets. The contour of the workpiece to be clamped is machined into the collet. Free-form and asymmetrical contours can be clamped.

The integrated spring package generates a clamping force of 5.8 kN. The clamping force can be raised to 43.5 kN by pneumatic post-clamping. The clamp is released by blowing compressed air onto the lower piston surface pushing the piston upwards and releasing the clamping force on the collet. Clamping travel 0.2 mm. Repeat accuracy < 0.01 mm.

Accessories:

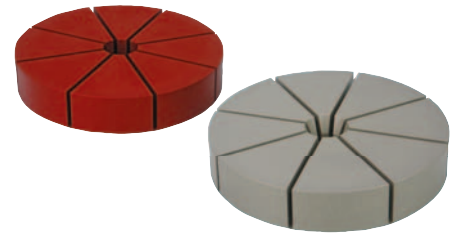
Collet for external or internal clamping K0502

KIPP Machinable collet system for grid plates

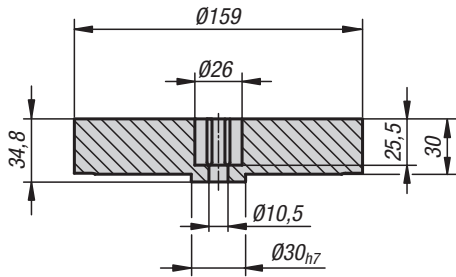
Order No.	Version	Clamping range min. - max.	Milling depth min./max.	Workpiece weight max. (kg)	Suitable shoulder screw
K0501.11603050	external clamping	Ø 30 - Ø 140	1-20	25	K0815.12055
K0501.21603050	internal clamping	Ø 30 - Ø 140	1-20	25	K0815.12055

Collets

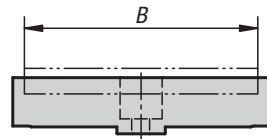
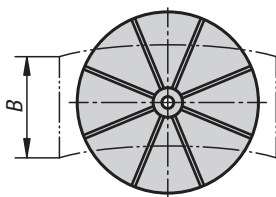
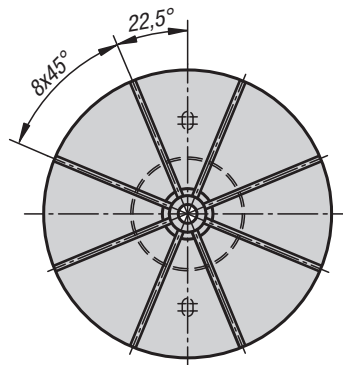
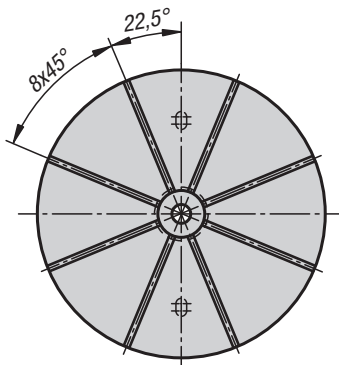
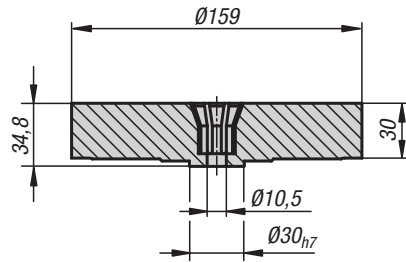
for external or internal clamping



external clamping



internal clamping



The workpiece width "B" should be maximum 90% of the collet diameter.
In special cases the workpiece may also project over the collet.

Material, version:

High-strength aluminium, red (external clamping) or clear (internal clamping), anodised.

Sample order:

K0502.116030

Note:

Collet for clamping external or internal contours. The contour of the workpiece to be clamped is machined into the collet. Free-form and asymmetrical contours can be clamped.

Clamping travel 0.2 mm.

Tension cone K0502.1024 is required for internal clamping collets.

Accessories:

Tension cone K0502.1024



external clamping



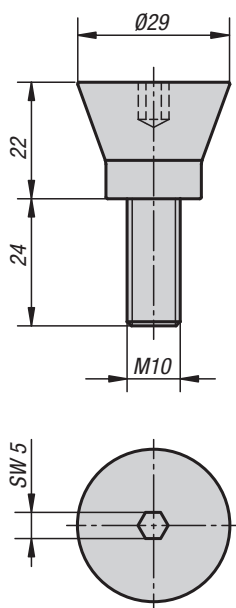
internal clamping

KIPP Collets for external or internal clamping

Order No.	Version	Clamping range min. - max.	Milling depth min./max.	Workpiece weight max. (kg)
K0502.116030	external clamping	Ø 30 - Ø 140	1-20	25
K0502.216030	internal clamping	Ø 30 - Ø 140	1-20	25

Tension cone

for internal clamping collet



Material:
Carbon steel.

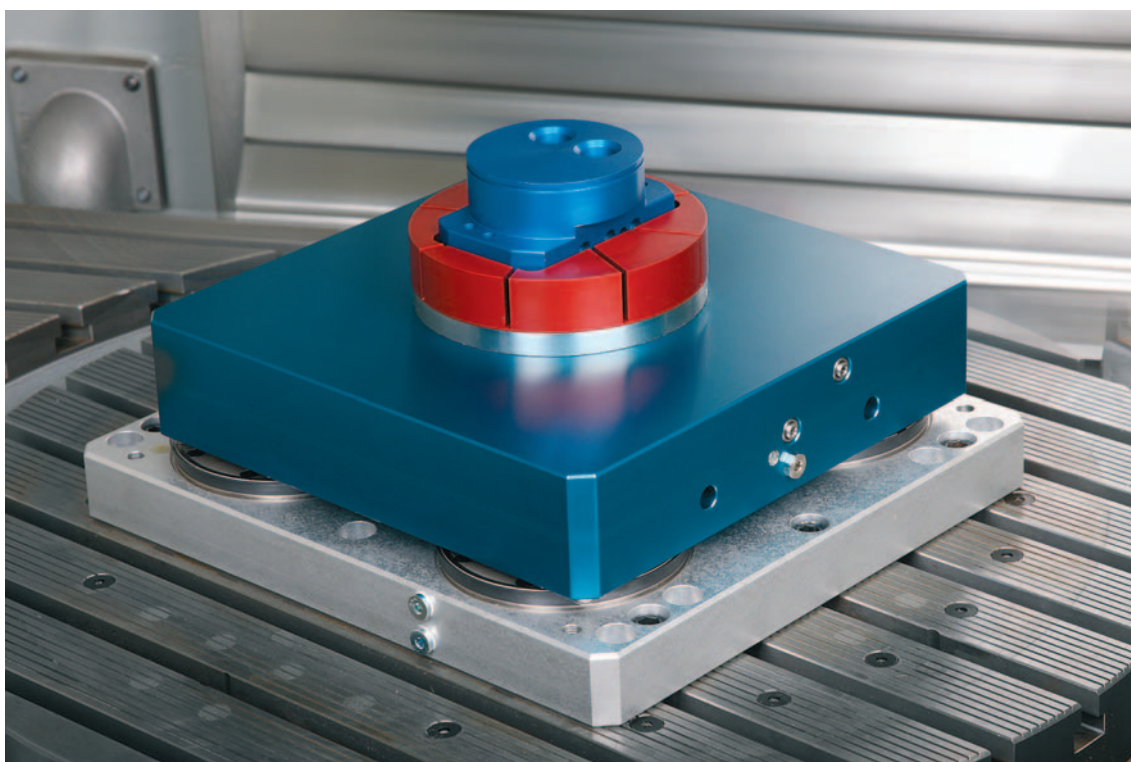
Version:
Bright.

Sample order:
K0502.1024

Accessories:
Collet for internal clamping K0502.216030

KIPP Tension cone for internal clamping collet

Order No.	Suitable for
K0502.1024	mandrel collet



Machinable collets

pneumatic



Material:

Chuck high-carbon steel, nickel-plated.
Collet high-strength aluminium, blue anodised.

Sample order:

K1392.1065090

Note:

The pneumatic collet system consists of a chuck and a machinable collet.

The chuck can be screwed onto fixtures according to the mounting dimensions.

Clamping procedure:

The collet is opened by applying compressed air to the „open“ port.

The collet is closed (for clamping) by applying compressed air to the „close“ port.

The pneumatic connections can be screwed on either from below or from the side. If the air is connected from below, the side ports must be closed.

Machining the collet for external clamping:

The negative form of the workpiece to be clamped is machined into the collet. Free-form and asymmetrical contours are possible.

Different workpieces can be clamped quickly and securely by simply exchanging the collet.

The collet can be milled down to height H2. This enables multiple workpiece contours to be machined into one collet.

Repeat accuracy for workpiece: +/-0.03

Repeat accuracy after replacing the collet +/- 0.02

The collet radial clamping travel is 0.15 mm per clamping segment.

To prevent damage the collet should not be tightened without a workpiece or clamping ring in place.

The operating air pressure should lay between 0.45 - 0.55 MPa.

The clamping forces indicated are based on 0.5 MPa.

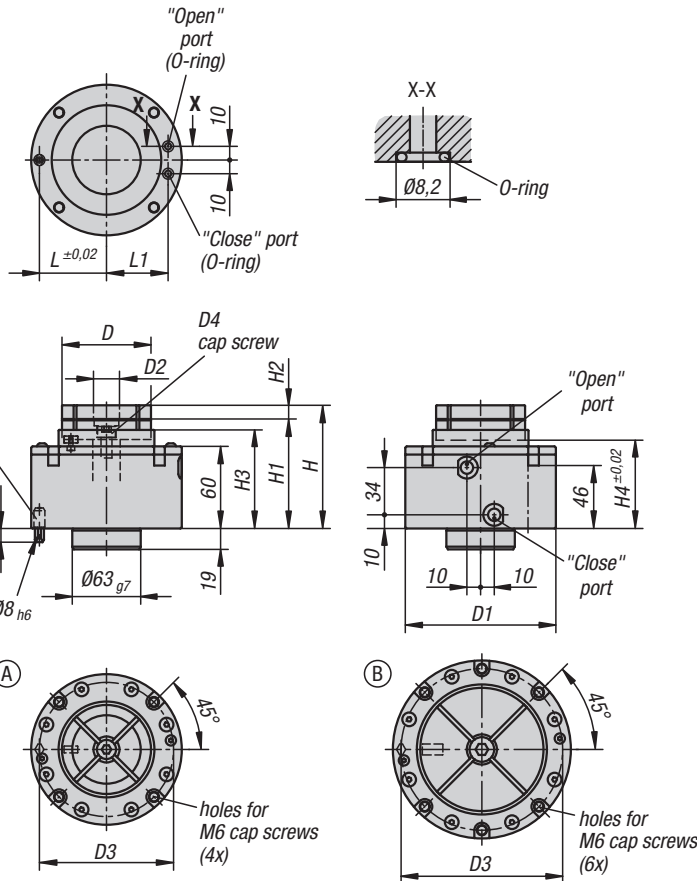
Accessories:

Clamping ring for machining the contour.

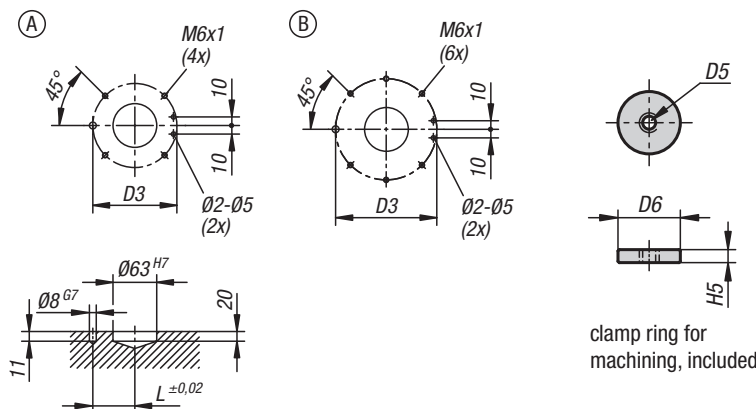
O-ring.

Locating pin.

Clamping screw for collet.



installation dimensions

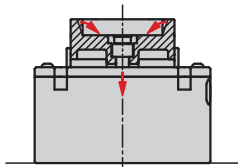


KIPP Machinable collets, pneumatic

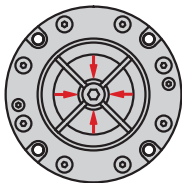
Order No.	Form	D	D1	D2	D3	D4	D5	D6	H	H1	H2	H3	H4	H5	L	L1	Operating pressure MPa	Clamping force N	Order No. Collet
K1392.1065090	A	65	110	19	98	M8	M4	18	90	80	10	72	65	4	49	45	0,5	4000	K0934.065025
K1392.1090100	B	90	130	23	118	M10	M5	22	100	85	15	74	66	6	59	55	0,5	6000	K0934.090034

Machinable collets

pneumatic

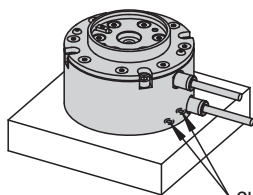


Applying compressed air draws the cylinder down. The 4 clamping segments move inwards and clamp the workpiece.



Using the side ports:

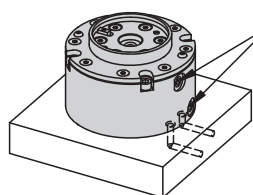
- Seal the lower ports with the O-rings provided.
- Check that no air escaping from here.



Check that the lower ports are sealed.

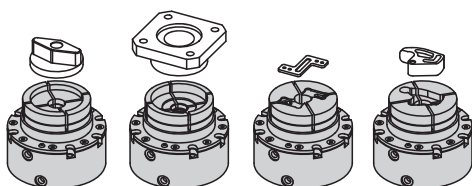
Using the lower ports:

- Fit the O-rings provided into the lower ports.
- The side ports must be closed.



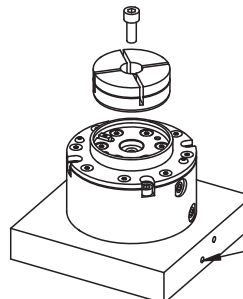
Seal the air connections and check them for tightness.

Different workpiece shapes can be machined into the collets.



Mounting the collet:

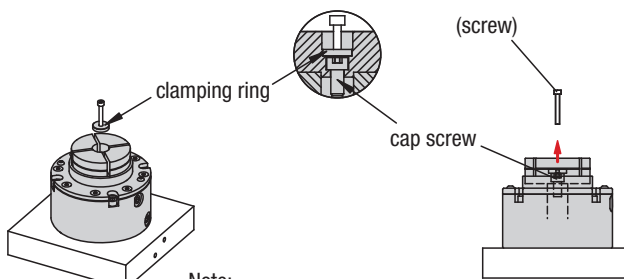
When mounting the collet, make sure that air is connected to the "open" connection. The cylinder and fastening screw are loose.



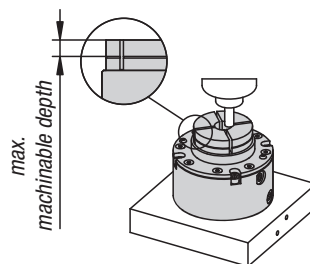
Note: Connect air to the "open" port

Machine the collet:

Insert the clamping ring into the collet. (A screw can be used as an insertion aid)



Note: Position the clamping ring over the fastening screw of the collet.

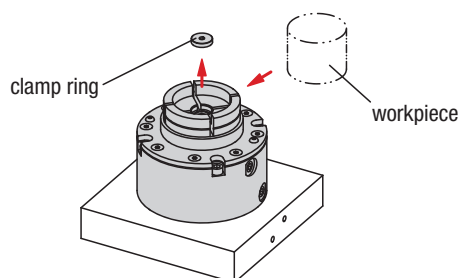


Clamp the collet over the "close" port.

Machine the collet to suit to the workpiece shape.

Clamp the workpiece:

After machining the collet, remove the clamping ring. Insert the workpiece and apply air to the "close" port to clamp it.



Application examples for collets



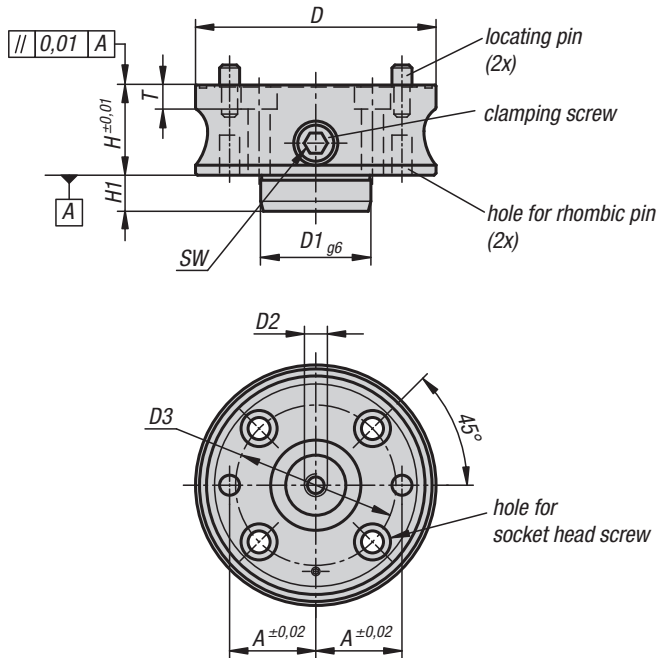
External clamping



Internal clamping



Adapter for collets



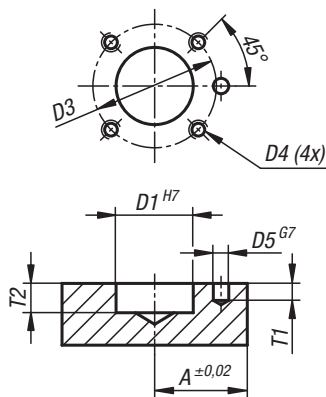
Material:
Carbon steel.

Version:
nickel-plated.

Sample order:
K1183.065

Note:
With this adaptor, collets for internal and external clamping can be mounted. The workpiece is clamped by tightening the screw on the side. A dowel pin is used to secure the adaptor against rotation. The collet is positioned on the adaptor with 2 dowel pins.

installation dimensions

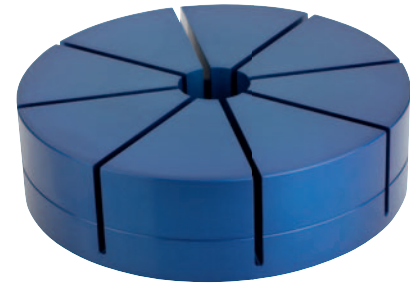


KIPP Adapter for collets

Order No.	A	D	D1	D2	D3	D4	D5	H	H1	SW	T	T1	T2	for screws	Tightening torque max. Nm	F1 kN	F2 kN
K1183.065	22	65	28	M8	42	M6x1	6	35	12	8	8	6	13	M6	15	4,5	4,5
K1183.090	30	90	42	M10	60	M8x1,25	8	40	14	8	10	8	15	M8	25	7	7
K1183.120	43	120	55	M10	80	M10x1,5	10	45	18	10	12	11	19	M10	40	10	10
K1183.160	60	160	63	M12	110	M12x1,75	12	50	24	10	14	13	25	M12	40	12	10

Collets

for external clamping



Material:

High-strength aluminium alloy

Version:

blue anodised.

Sample order:

K1184.1065

Note:

Collets for clamping external contours.

The contour of the workpiece to be held is machined into the collet. Free-form and asymmetrical contours can be held.

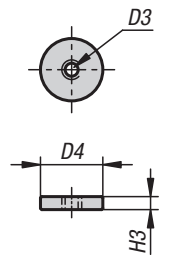
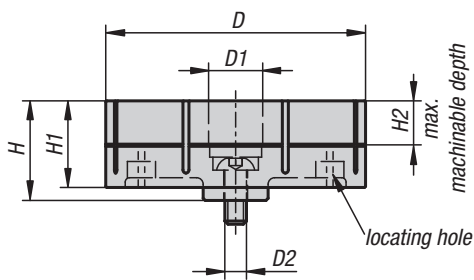
The collet mechanism enables a secure clamping of the workpiece.

Clamping travel per collet segment (8x) max. 0.15 mm.

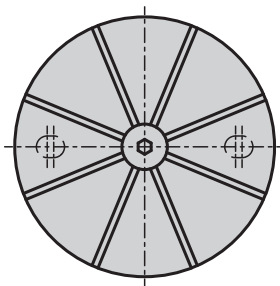
Workpiece repeat accuracy: ± 0.03 .

Collet repeat accuracy: ± 0.02 .

Matching adaptor K1183.



clamp ring for machining, included



KIPP Collets for external clamping

Order No.	D	D1	D2	D3	D4	H	H1	H2	H3
K1184.1065	65	21	M8	M5	20	29	25	10	4
K1184.1090	90	25	M10	M6	24	40	35	15	5
K1184.1120	120	25	M10	M6	24	46	40	20	5
K1184.1160	160	29	M12	M8	28	52	45	25	6

Collets

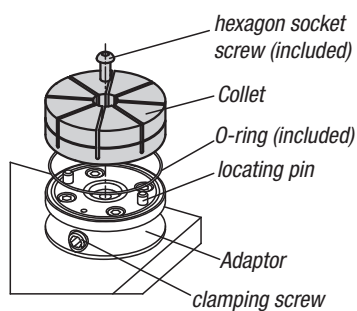
for external clamping

1. Mounting collet:

- Insert an O-ring into the groove on the top face of the clamp base.
- Set a collet on the base making sure the locating pins fit into the locating holes on the underside of the collet. Secure the collet using a buttonhead hex socket screw.

Note:

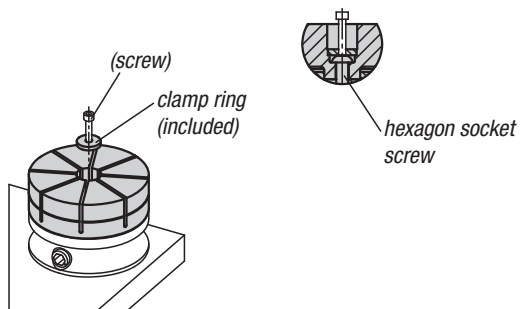
Before mounting the collet, ensure the cam cylinder is fully loosened by turning the tightening screw clockwise until it stops.



2. Machining collet:

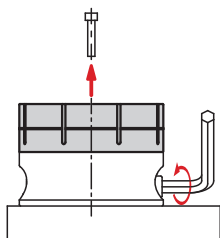
2.1

Place the clamp ring in the centre of the collet. (Use a screw as an insertion aid)



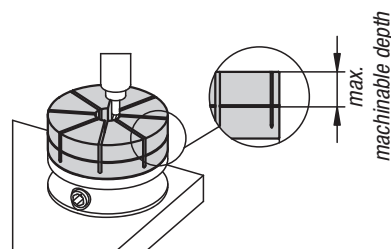
2.2

Tighten the cam cylinder to clamp the clamp ring (recommended torque: 15Nm). Remove the screw from the clamp ring before machining.



2.3

Machine the contour of the part that is to be held into the collet.

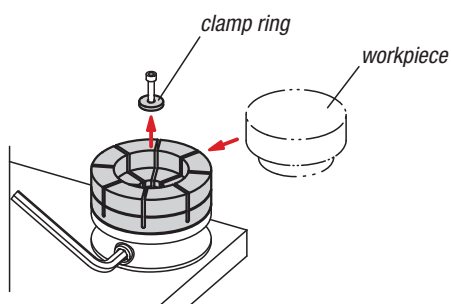


Note:

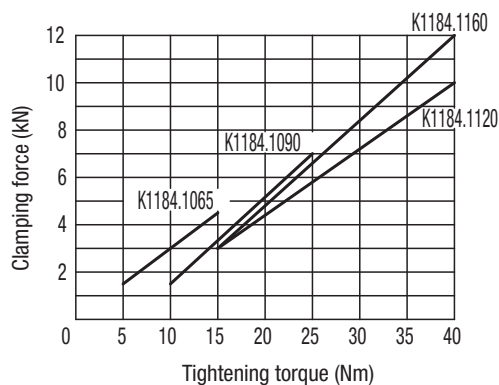
Do not machine the contour deeper than the permitted depth.

3. Mounting workpiece:

- Loosen the cam cylinder and remove the clamp ring.
- Place the workpiece in the contour and re-tighten the cam cylinder.



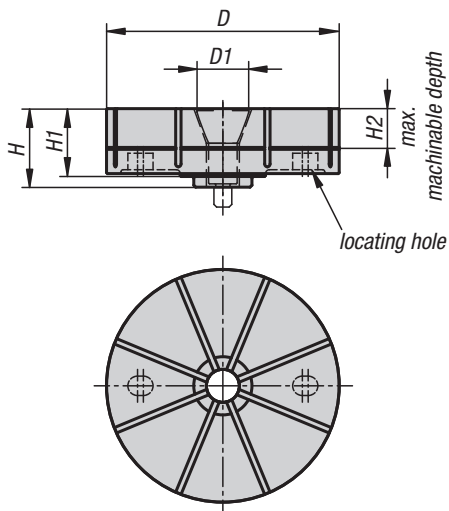
Performance curve



To avoid damaging the collet do not tighten the clamp without a workpiece or clamp ring. Observe the maximum tightening torque in the table.

Collets

for internal clamping



Material:

High-strength aluminium alloy

Version:

natural tone anodised

Sample order:

K1184.2065

Note:

Collets for clamping internal contours.

The contour of the workpiece to be held is machined into the collet. Free-form and asymmetrical contours can be held.

The collet mechanism enables a secure clamping of the workpiece.

Clamping travel per collet segment (8x) max. 0.15 mm.

Workpiece repeat accuracy: ± 0.03 .

Collet repeat accuracy: ± 0.02 .

The traction cone K1185 is required when using the collet for internal clamping.

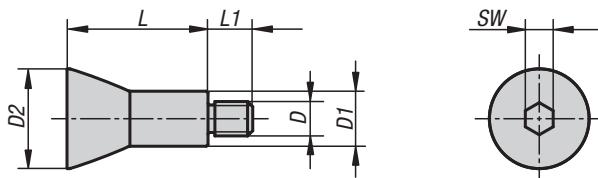
Matching adaptor K1183.

KIPP Collets for internal clamping

Order No.	D	D1	H	H1	H2
K1184.2065	65	22,5	28,5	25	10
K1184.2090	90	27	34,5	30	15
K1184.2120	120	29	40,5	35	20
K1184.2160	160	33	46,5	40	25

Traction cone

for internal clamping collet



Material:

Carbon steel.

Version:

hardened and nickel-plated.

Sample order:

K1185.0829

Note:

The traction cone is required for the collet for internal clamping.

KIPP Traction cone for internal clamping collet

Order No.	D	D1	D2	L	L1	SW
K1185.0829	M8	13,2	22,5	29	10	6
K1185.1035	M10	16	27	35	11	8
K1185.1041	M10	16	29	41	13	8
K1185.1247	M12	18	33	47	14	10

Collets

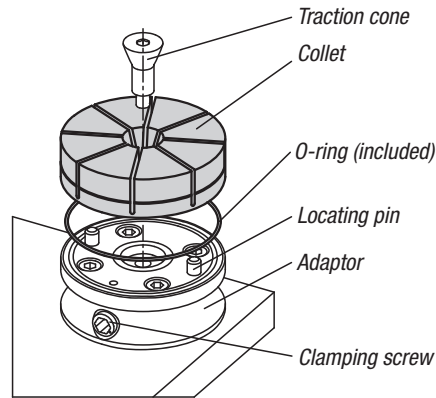
for internal clamping

1. Mounting collet:

- Insert an O-ring into the groove on the top face of the clamp base.
- Set a collet on the base making sure the locating pins fit into the locating holes on the underside of the collet.
- Secure the collet using a tapered screw.

Note:

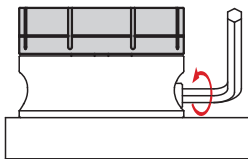
Before mounting the collet, ensure the cam cylinder is fully loosened by turning the tightening screw clockwise until it stops.



2. Machining collet:

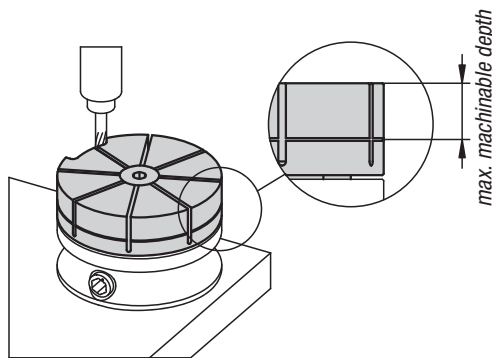
2.1

Fully loosen the cam cylinder and measure the OD of the collet. Tighten the cam cylinder until the collet OD has expanded by 0.15 mm.



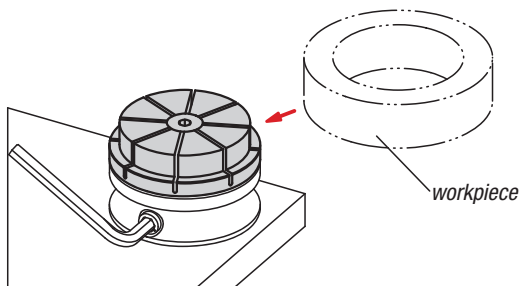
2.2

Machine the contour of the part that is to be held into the collet.

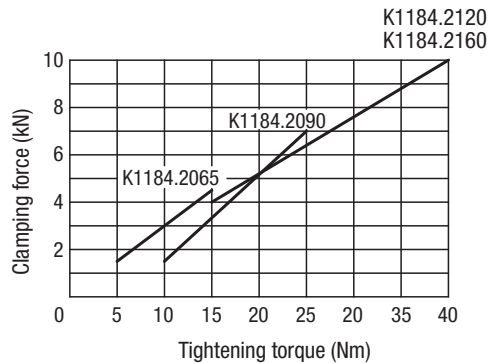


3. Mounting workpiece:

- Loosen the cam cylinder and remove the clamp ring.
- Place the workpiece in the contour and re-tighten the cam cylinder.



Performance curve



To avoid damaging the collet do not tighten the clamp without a workpiece or clamp ring. Observe the maximum tightening torque in the table.

Clamping collets machinable

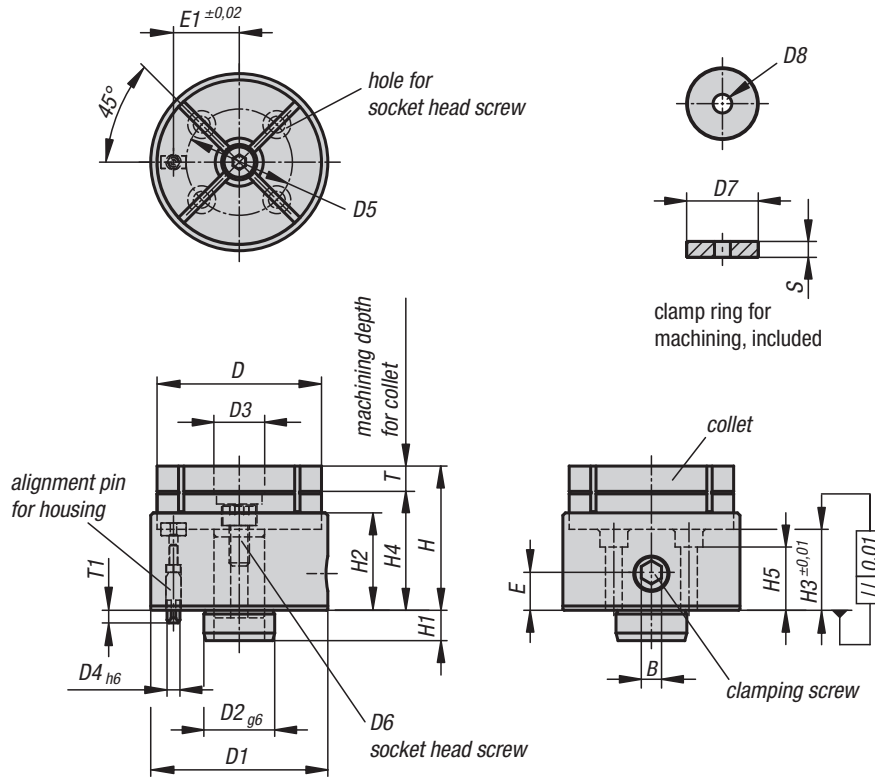


Material:
 Housing and clamping ring carbon steel 1.0503.
 Locating pins carbon steel 1.7220.
 Collet aluminium 3.4365.

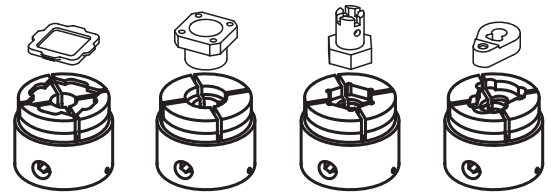
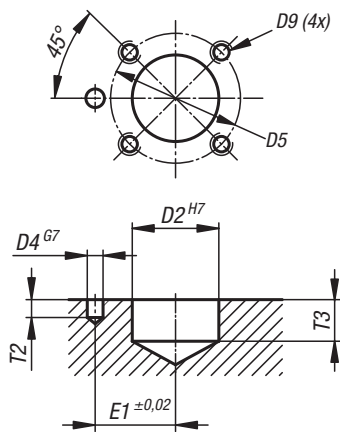
Version:
 Housing, locating pins and clamping ring black oxidised.
 Collet blue anodised.

Sample order:
 K0934.065057

Note:
 Do not tighten the clamping screw without the clamping ring or a workpiece in the collet.
 Tighten the clamping screw on the side to clamp the workpiece around its circumference.
 The collet can be machined to suit the contour of the workpiece.
 Ideal clamping element for machining workpieces on machining centres, milling centres, 5-axis machines, etc.



mounting hole pattern



KIPP Clamping collets machinable

Order No.	B	D	D1	D2	D3	D4	D5	D6	D7	D8	D9	E	E1	H	H1	H2	H3	H4	H5	T	T1	T2	T3	S	Clamping force N	Tightening torque max. Nm	Order No. Collet
K0934.065057	8	65	70	28	19	6	42	M8x15	18	M4	M6	15	26	59,5	12	39	34,5	47	25	10	5	6	13	4	4000	60	K0934.065025
K0934.090072	10	90	95	42	23	8	60	M10x20	22	M5	M8	17	36	72,5	14	46	38,5	57	28	15	7	8	15	6	6000	100	K0934.090034

Mounting plates

for clamping collets

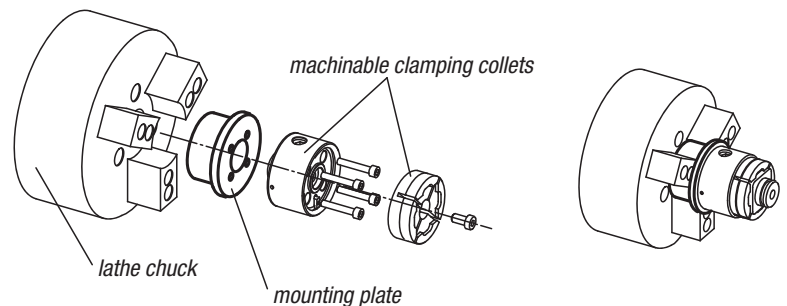
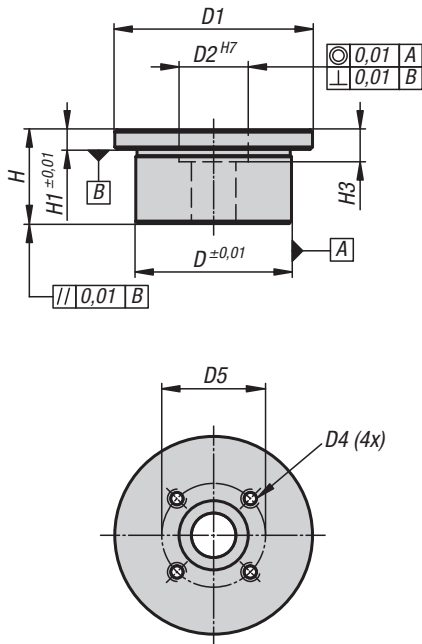


Material:
Carbon steel 1.7262.

Version:
Black oxidised and case-hardened.

Sample order:
K0934.065038

Note:
Suitable for clamping collets
K0934.065057 and K0934.090072.

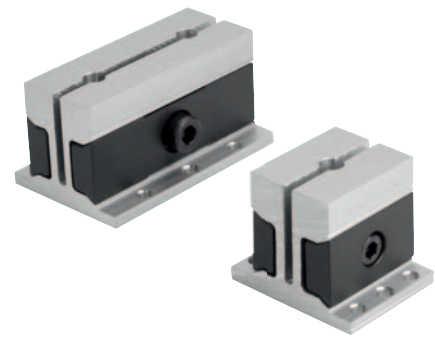


Mounting plate for holding the collet in a lathe chuck

KIPP Mounting plates for clamping collets

Order No.	D	D1	D2	D4	D5	H	H1	H3
K0934.065038	63	80	28	M6x12	42	38	8	13
K0934.090043	80	100	42	M8x16	60	43	8	15

Machinable jaws rectangular

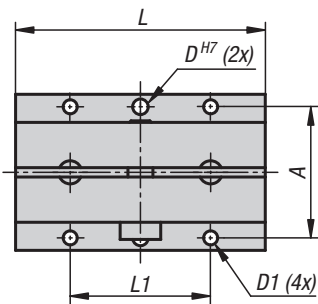
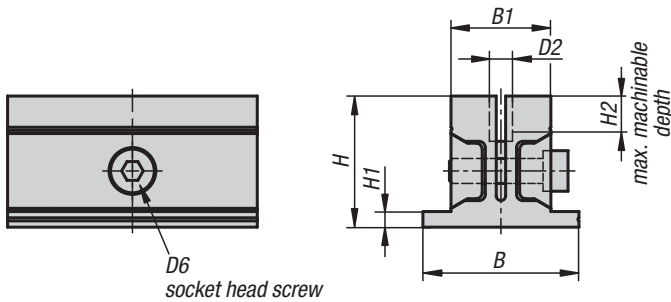


Material:
Body EN AC-51400.
Wedges high-carbon steel.

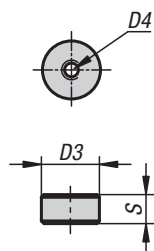
Version:
Body natural colour anodised.
Wedges black oxidised.

Sample order:
K1169.32040

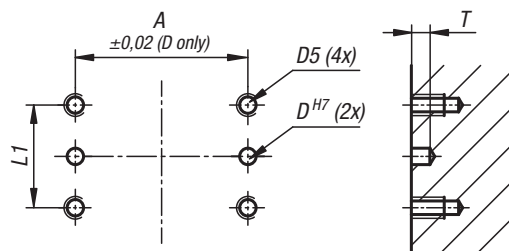
Note:
The lateral clamping screw tightens the jaws and clamps the workpiece on the circumference.
The simple and compact design allows 2 workpieces to be clamped.
The clamping travel is max. 0.5 mm.
The jaws must be pre-tensioned before machining the contour, the supplied clamping ring is used for this purpose.



clamp ring for machining, included



installation dimensions



KIPP Machinable jaws, rectangular

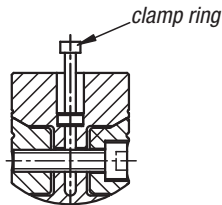
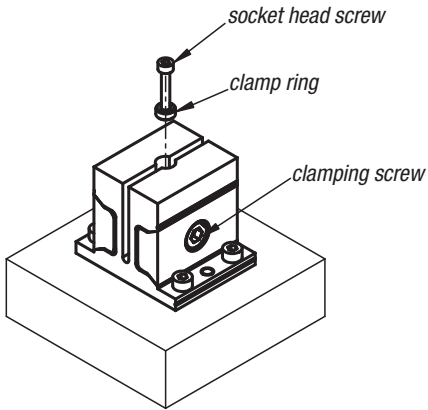
Order No.	A	B	B1	D	D1	D2	D3	D4	D5	D6	H	H1	H2	L	L1	S	T	Clamping force N	Tightening torque Nm
K1169.32040	42	50	32	5	4,5	7,4	7	M3x0,5	M4x0,7	M6	42	5	10	40	25	3,5	5	2500	7,5
K1169.32080	42	50	32	5	4,5	7,7	7	M3x0,5	M4x0,7	M8	42	5	10	80	45	3,5	5	2500	14
K1169.50050	62	72	50	6	5,5	11,4	11	M3x0,5	M5x0,8	M10	63	7	15	50	30	5,5	8	5500	26
K1169.50100	62	72	50	6	5,5	11,4	11	M3x0,5	M5x0,8	M12	63	7	15	100	58	5,5	8	5500	46

Machinable jaws rectangular

Machining the jaws:

1. Inserting the clamp ring:

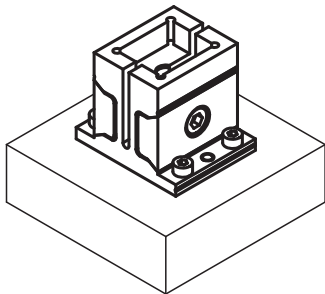
Insert the clamp ring into the bore in the centre of and between the jaws.
Tighten the clamp screw to hold the clamp ring in place.
(Use a cap screw to aid inserting the clamp ring)



Note:
The clamp ring must be placed at the bottom of the bore.

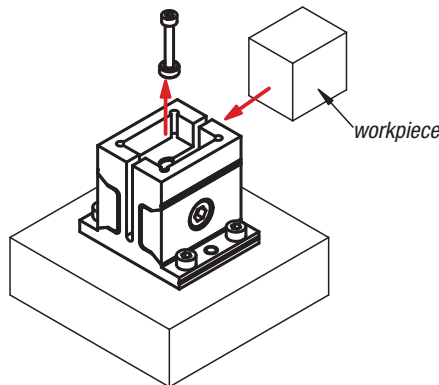
2. Machine the jaws:

Remove the cap screw from the clamp ring.
Machine the contour of the workpiece to be held into the jaws.



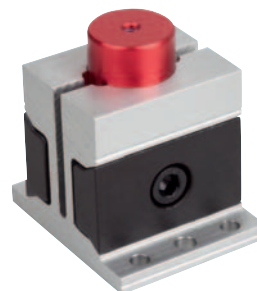
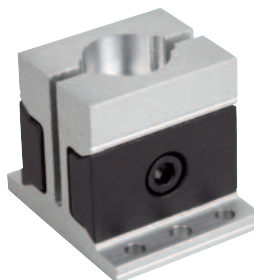
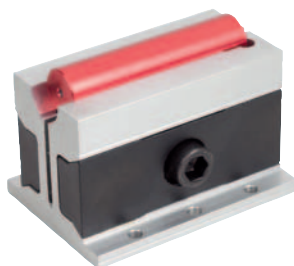
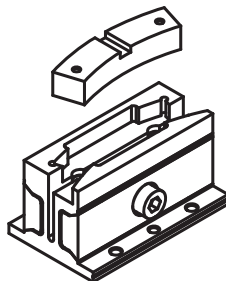
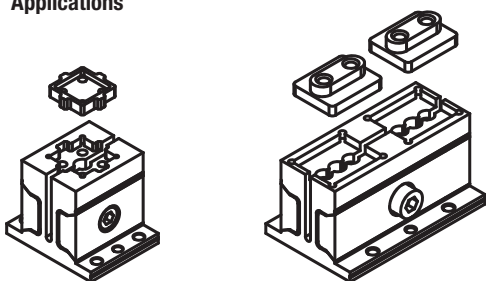
3. Mounting the workpiece:

Loosen the clamp screw and remove the clamp ring.
Place the workpiece into the contour and tighten the clamp screw.

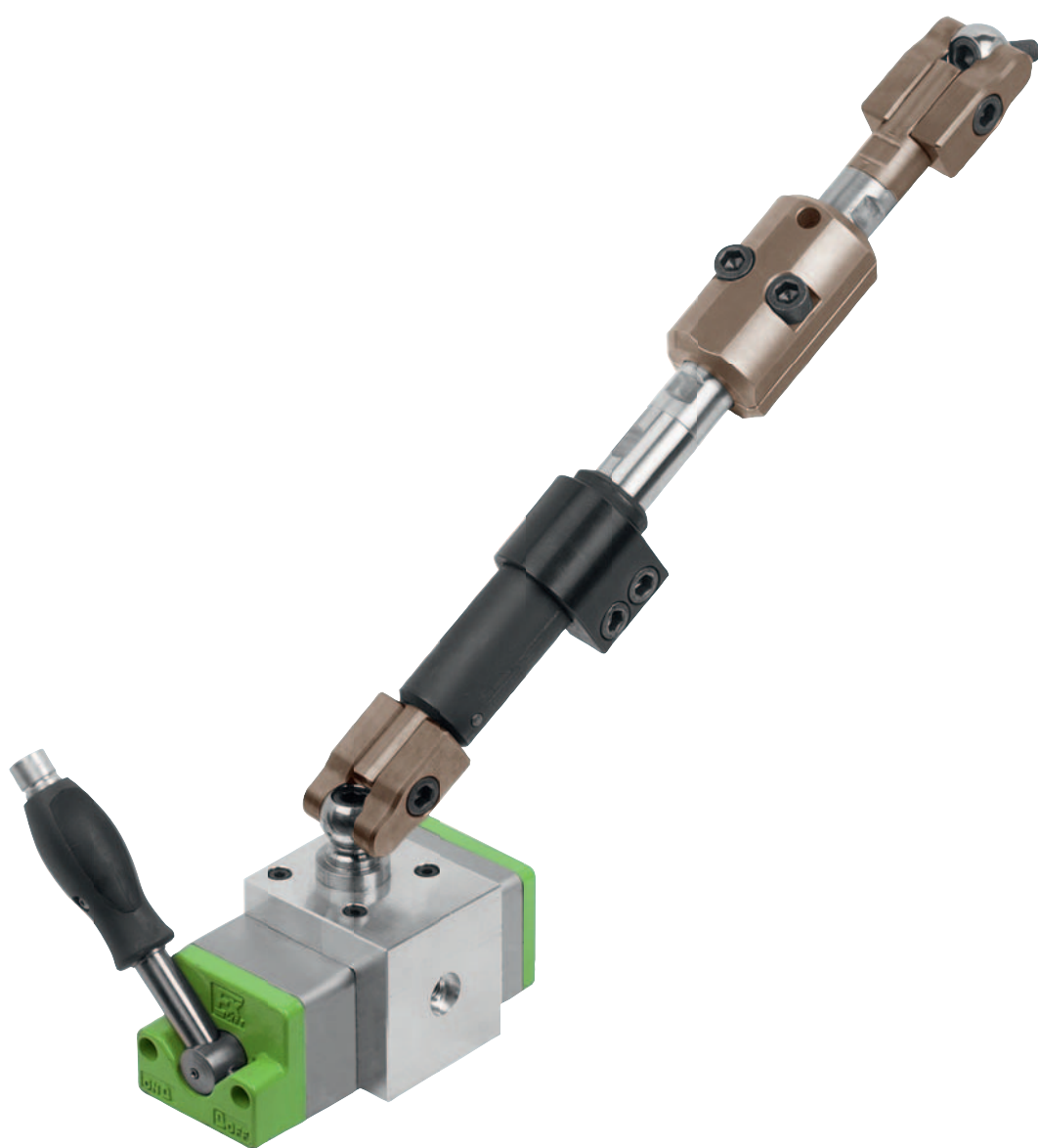


Note:
The contour should not be deeper than the max. permitted depth.

Applications



Workpiece stabiliser

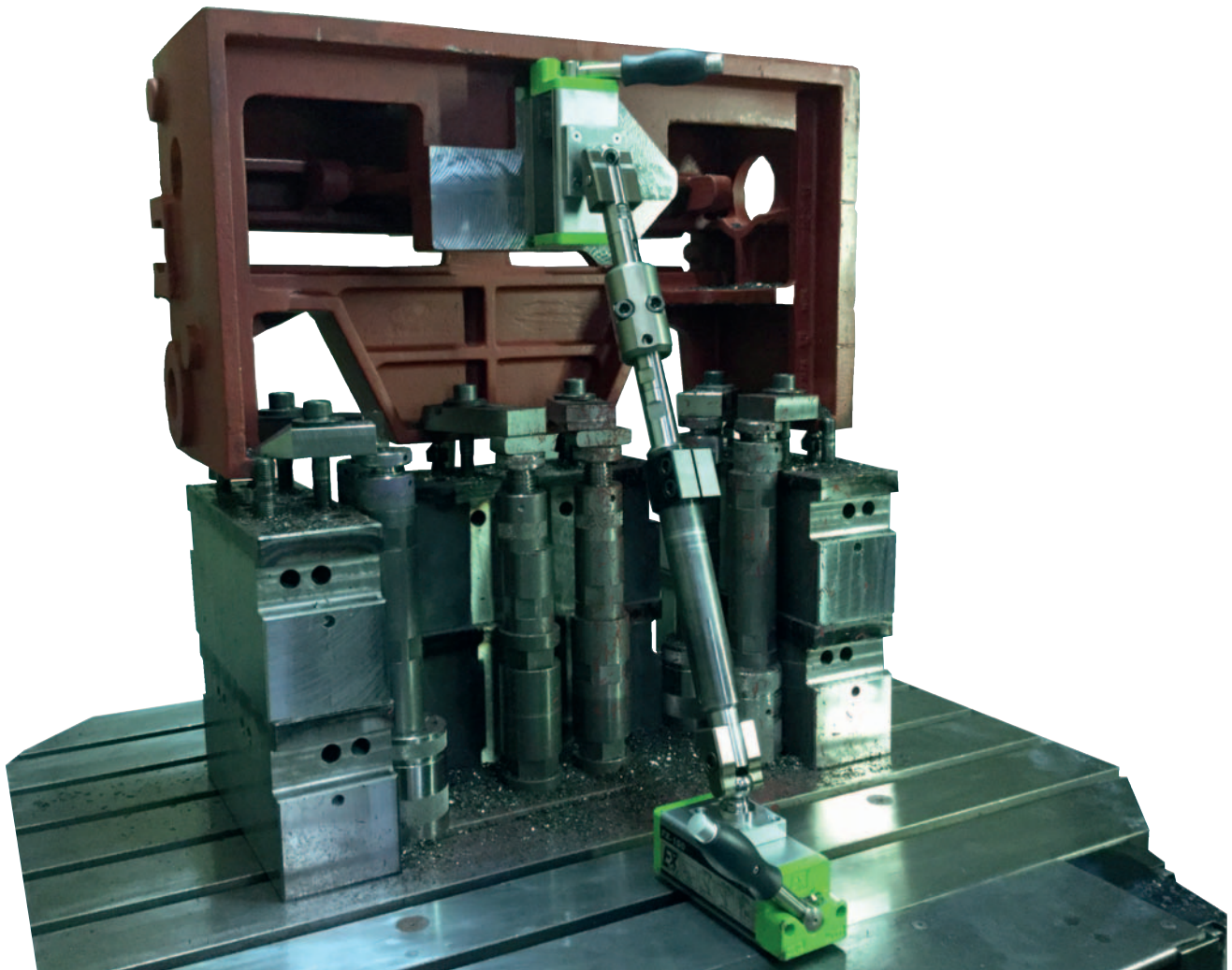


Technical information Workpiece stabiliser



The workpiece stabiliser has been developed specifically for minimising vibrations and oscillations when machining sensitive and thin-walled workpieces.

This system is extremely flexible thanks to its different methods of fixing to the workpiece and the machine table.





- 1 Fastening set for T-slots
- 2 Magnet
- 3 Fastening set for zero-point interface
- 4 Workpiece stabiliser
- 5 Fine adjustment
- 6 Clamp strap
- 7 Clamping ball with cup

Workpiece stabiliser set

with case



Material:

Case plastic.

See corresponding product group for contents.

Version:

black.

Sample order:

K1296.925

Note:

Objects sized between 355 and 980 mm can be set up using this stabiliser set.

It is basic equipment for supporting workpieces.

The individual parts are safely stored in a plastic case.

The length of the workpiece stabiliser is infinitely adjustable.

With the locking mechanism, the shaft can be securely locked against tension and compression.

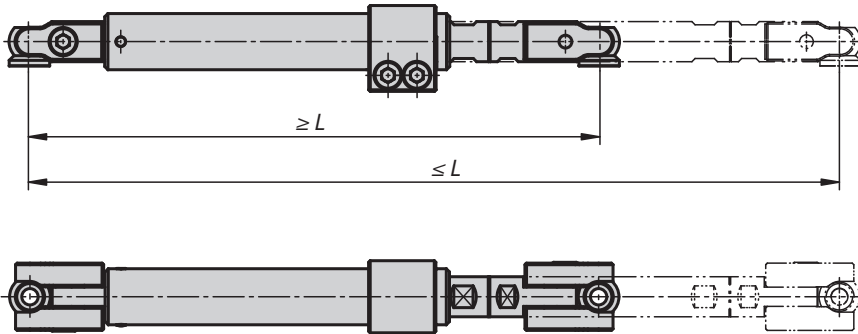
Supplied with:

- Case
- Workpiece stabiliser, K1170.355505
- Extension shaft L75, K1186.1625075
- Extension shaft L100, K1186.1625100
- Extension shaft L150, K1186.1625150
- Precision adjustment, K1187.25120150
- Fastening set for T-slots, 14 mm T-slot set, K1189.2514
- 18 mm T-slot block with M10, K0378.18.005
- 22 mm T-slot block with M10, K0378.22.005
- Clamping ball with cup M12, K1193.3251240
- Clamping ball with cup M16, K1193.3251640

KIPP Workpiece stabiliser set with case

Order No.	Item	Version 1
K1296.925	workpiece stabiliser set	with case

Workpiece stabiliser



Material:
Steel.

Version:
Black oxidised.

Sample order:
K1170.255305

Note:
The length of the workpiece stabiliser is infinitely adjustable. With the locking mechanism, the shaft can be securely locked against tension and compression. Supplied with 2 fastening sets and clamping ball with seating cup.

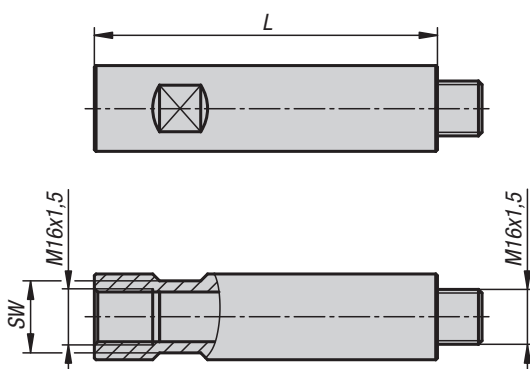
KIPP Workpiece stabiliser

Order No.	L min.	L max.	weight kg
K1170.255305	255	305	1,9
K1170.355505	355	505	2,5

K1186

Extension shafts

for workpiece stabiliser



Material:
Steel.

Sample order:
K1186.1625075

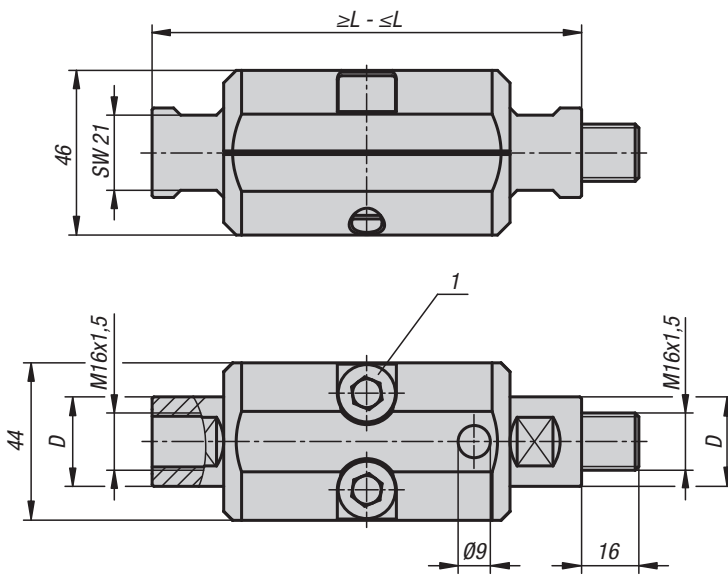
Note:
The extension shafts extend the adjustment range. They are mounted with the clamping ball between the workpiece stabiliser and the fastening set.

KIPP Extension shafts for workpiece stabiliser

Order No.	L	SW	weight kg
K1186.1625075	75	21	0,233
K1186.1625100	100	21	0,293
K1186.1625150	150	21	0,416
K1186.1625250	250	21	0,697
K1186.1625500	500	21	1,3

Fine adjustment

for workpiece stabiliser



Material:
Steel.

Sample order:
K1187.25120150

Note:
The fine adjuster enables the distance between the workpiece and the support surface to be precisely set. If required, the adjuster can be used to set the stabiliser under tensile or compressive load.

Drawing reference:
1) DIN EN ISO 4762 M10 cap screw

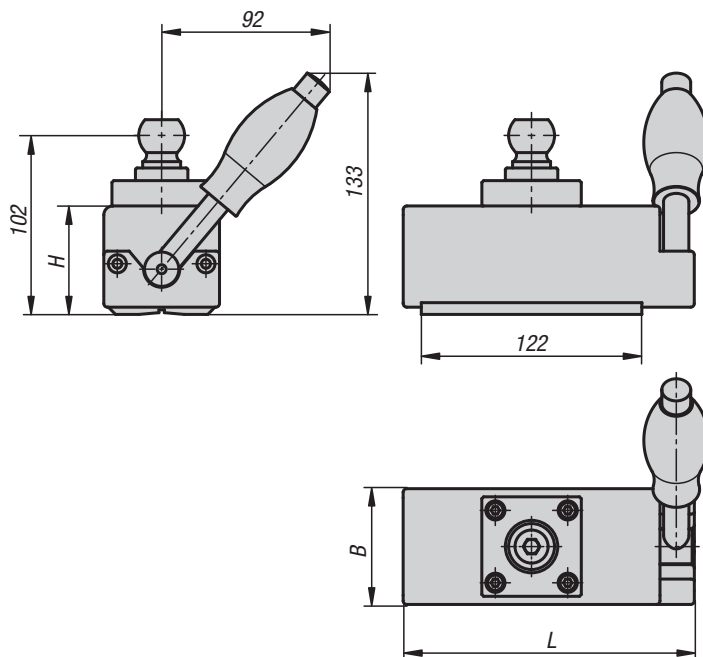
KIPP Fine adjustment for workpiece stabiliser

Order No.	D	L min.	L max.
K1187.25120150	25	120	150

K1188

Magnet

for workpiece stabiliser



Sample order:
K1188.25161064

Note:
The magnet is connected to the workpiece stabiliser. The magnet can be positioned anywhere enabling flexible placement on the machine table.

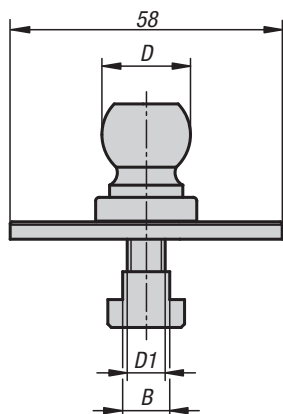
Attention:
- Retaining force 1470N.
- Max. retention from 8mm depending on material thickness.
- No lifting apparatus.

KIPP Magnet for workpiece stabiliser

Order No.	B	H	L	Magnetic force N	weight kg
K1188.25161064	64	60	161	1470	3,73

Fastening set

for T-slot tables



Material:
Steel.

Sample order:
K1189.2512

Note:
These fastening sets are for adapting to machine tables with T-slots.

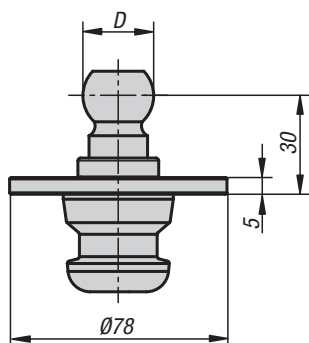


KIPP Fastening set for T-slot tables

Order No.	Version 1	B	D1	D
K1189.2512	for T-slot	12	M10	25,4
K1189.2514	for T-slot	14	M10	25,4
K1189.2518	for T-slot	18	M10	25,4
K1189.2520	for T-slot	20	M10	25,4
K1189.2522	for T-slot	22	M10	25,4
K1189.2524	for T-slot	24	M10	25,4

Fastening set

workpiece stabiliser



Material:
Steel.

Sample order:
K1190.2540

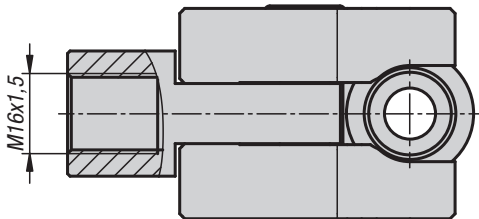
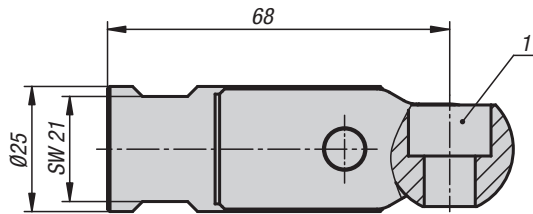
Note:
The fastening set is suitable for adaption to UNI lock clamping systems.

KIPP Fastening set for workpiece stabiliser

Order No.	D
K1190.2540	25,4

Fastening set with clamping ball

for workpiece stabiliser



Material:
Steel.

Sample order:
K1191.2525

Note:
This fastening set is used to connect the stabiliser to the workpiece. It is supplied with ball and seating cup.

Drawing reference:
1) for DIN 912 M10 cap screw

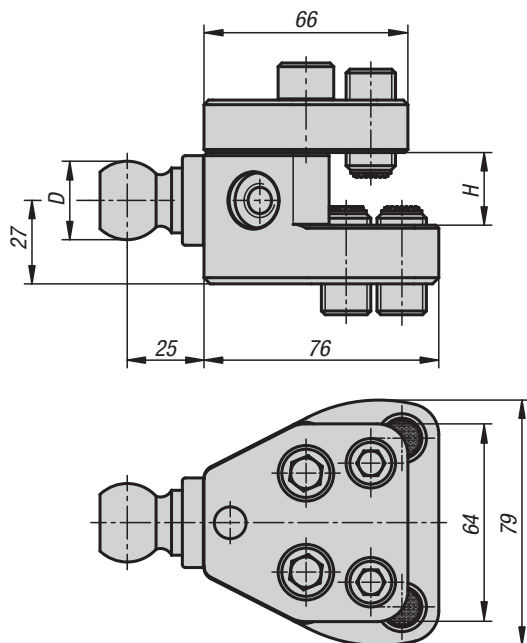
KIPP Fastening set with clamping ball for workpiece stabiliser

Order No.	Dimensions
K1191.2525	see drawing

K1192

Claw clamp

for workpiece stabiliser



Material:
Steel.

Sample order:
K1192.258076

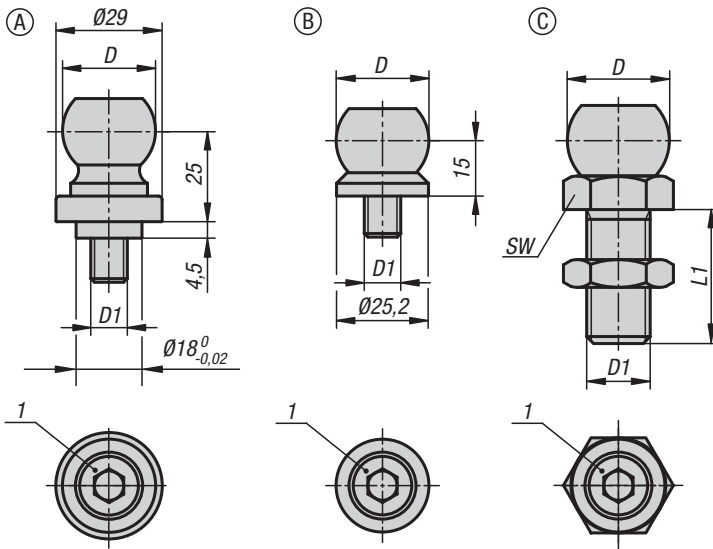
Note:
This claw clamp is used to connect the stabiliser to the workpiece. The clamping ball can be attached to several faces of the claw clamp enabling flexible adjustment.

KIPP Clamp strap for workpiece stabiliser

Order No.	D	H clamping range
K1192.258076	25,4	0-45

Clamping balls with cup

for workpiece stabiliser



Material:
Steel.

Version:
DIN EN ISO 4017 hex head bolt , grade 8.8, black.
DIN EN ISO 4762 cap screws, grade 8.8, black.
Ball, bright.

Sample order:
K1193.125

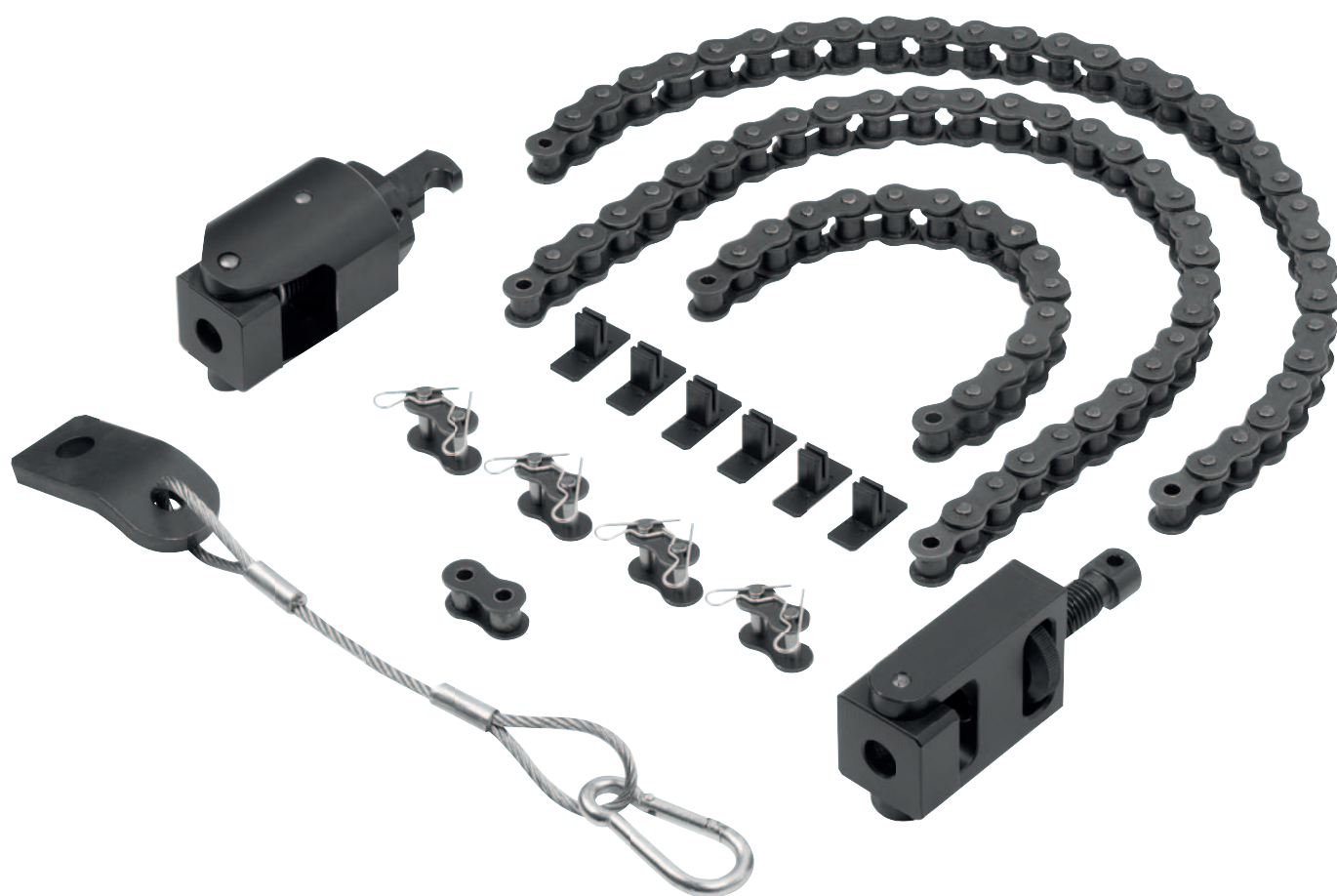
Note:
The clamping balls with cup enable flexible connections between the workpiece and the workpiece stabiliser. The clamping balls provide a high degree of freedom on the workpiece.

Drawing reference:
1) DIN EN ISO 4762 M10 cap screw

KIPP Clamping balls with cup for workpiece stabiliser

Order No.	Form	D	D1	L1	SW
K1193.125	A	25,4	M10	-	-
K1193.225	B	25,4	M10	-	-
K1193.3251240	C	25,4	M12	40	19
K1193.3251640	C	25,4	M16	40	24
K1193.3252050	C	25,4	M20	50	30
K1193.3252450	C	25,4	M24	50	36

Chain clamp



Chain clamp

**Note:**

Chain clamps are used mainly in machine and plant construction. Chain clamps enable cylindrical, complicated and large to very large workpieces to be clamped securely and effectively in the quickest and easiest way.

Suitable for cylindrical workpieces, valve bodies, pistons etc.

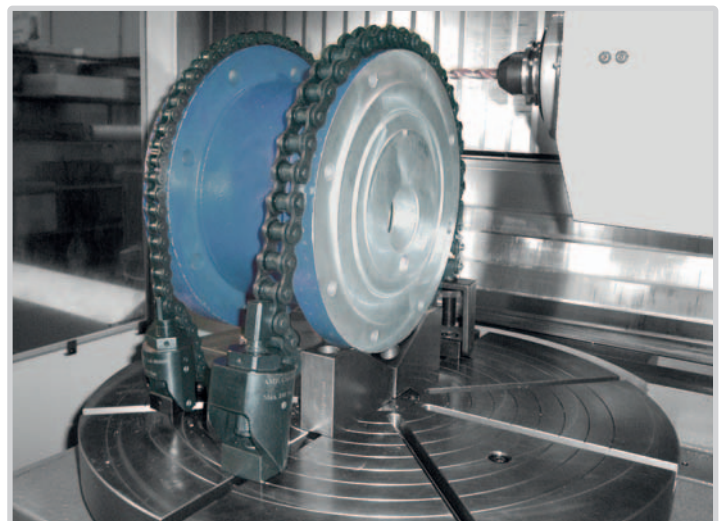
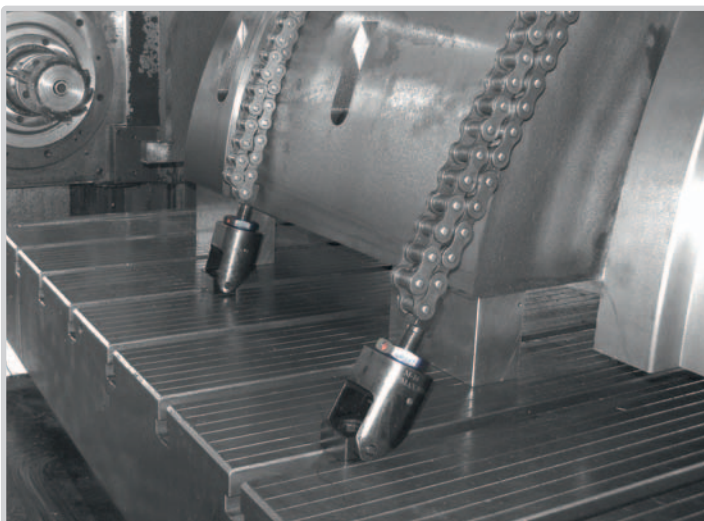
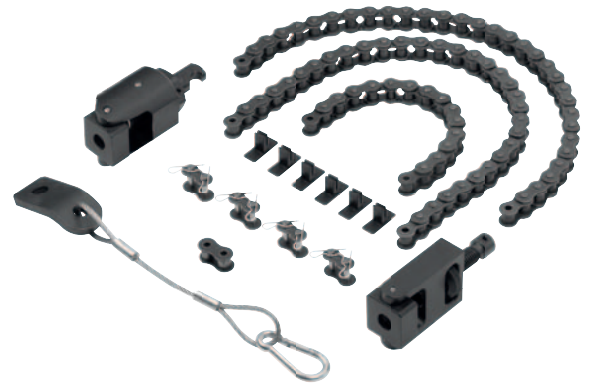
The workpiece surface can be protected by attaching the plastic elements.

Application:

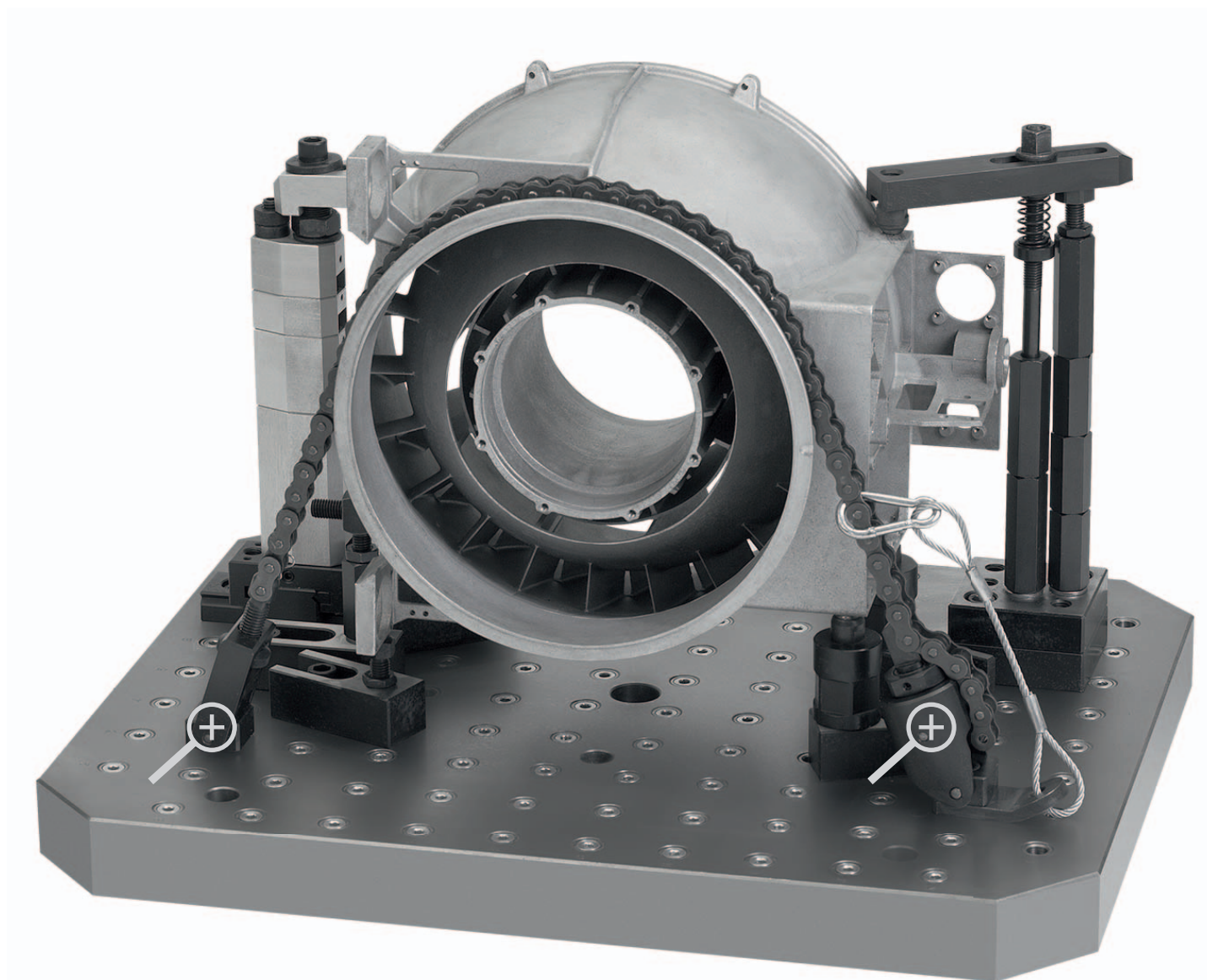
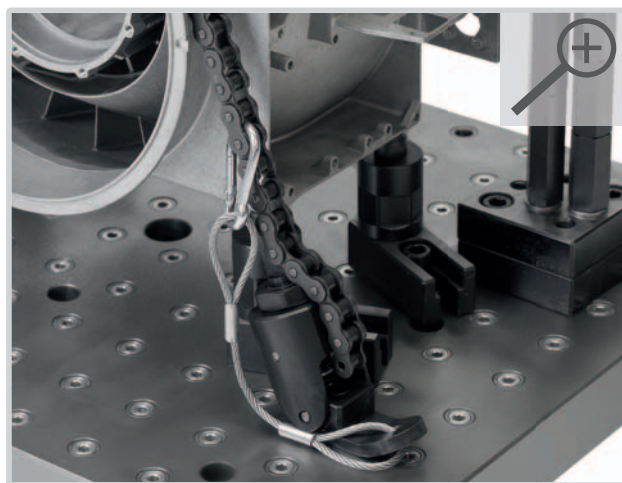
The knurled nut on the clamping bracket can be used to preset the chain length and the clamping force. The required torque is set on the clamping hook.

Attention:

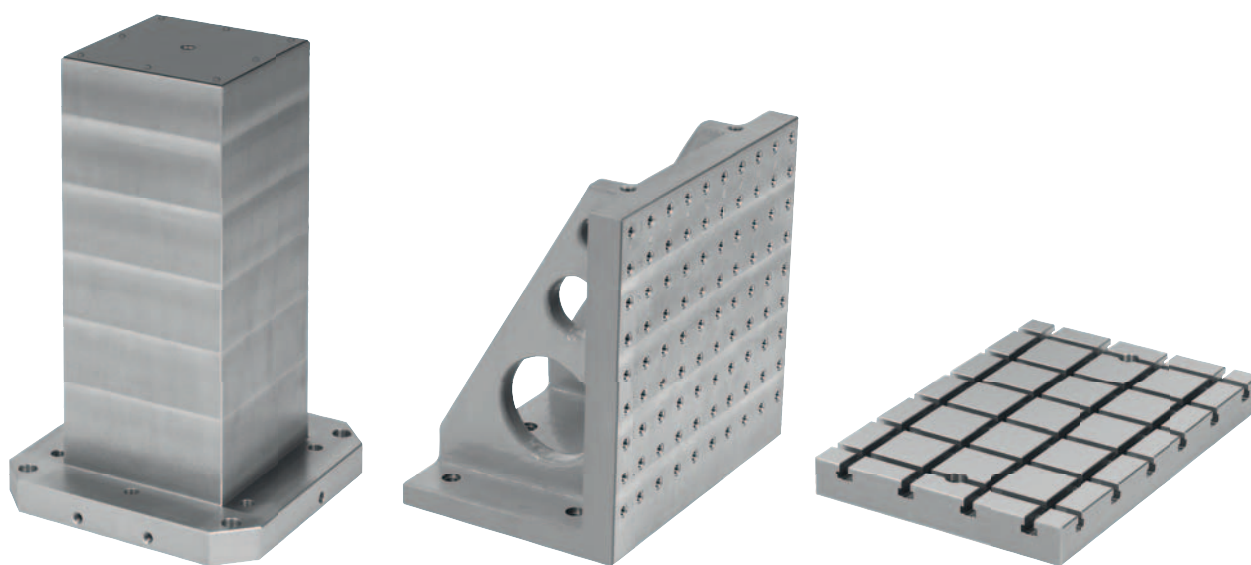
- The opening angle of the chain should not exceed 30°.
- Maximum permitted tightening torques.



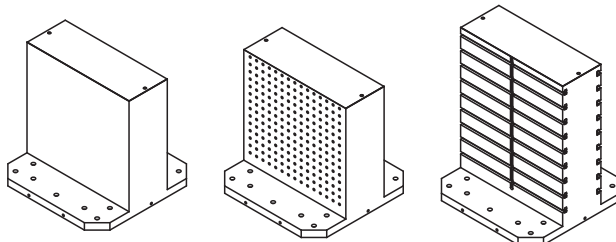
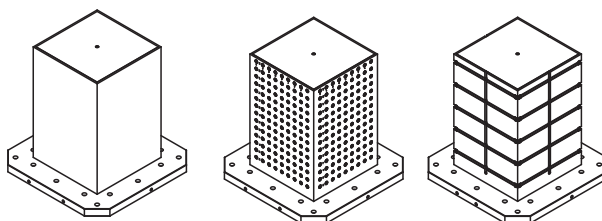
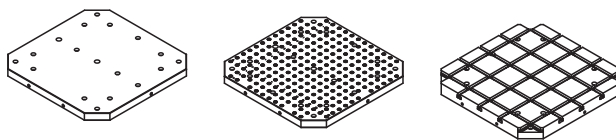
Application example



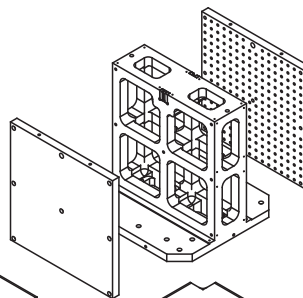
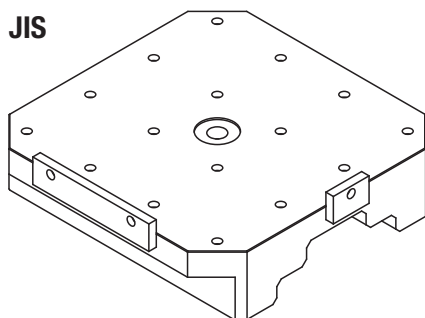
Basic elements



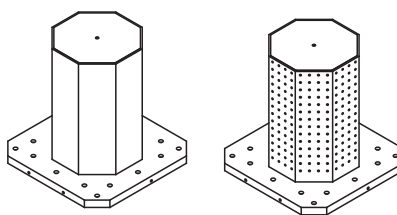
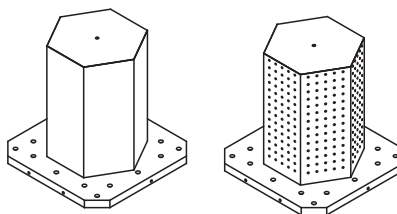
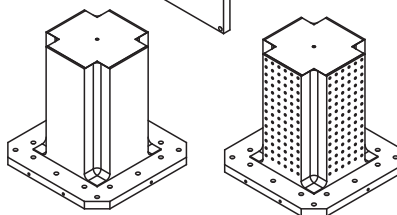
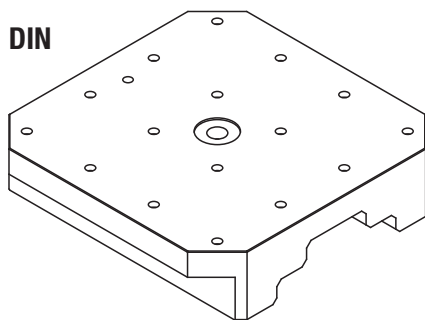




JIS



DIN



Positioning the base elements

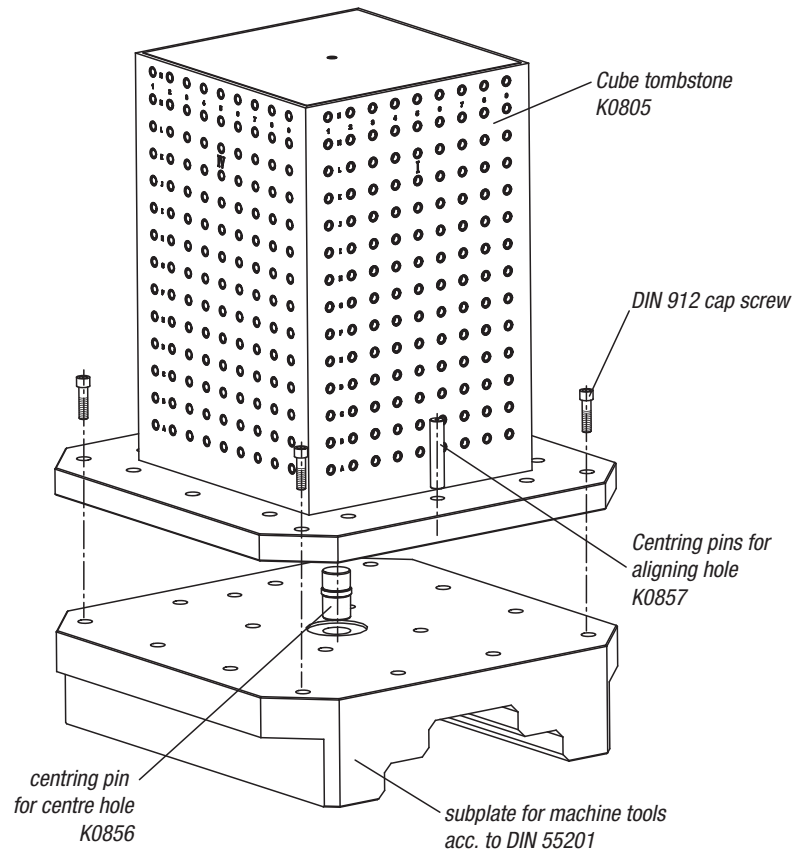


Single side tombstone K0802, double side tombstone K0803, cube tombstone K0805 and subplates K0806 have two positioning options:

a) Positioning on subplates for machine-tools acc. to DIN 55 201.

Positioning procedure:

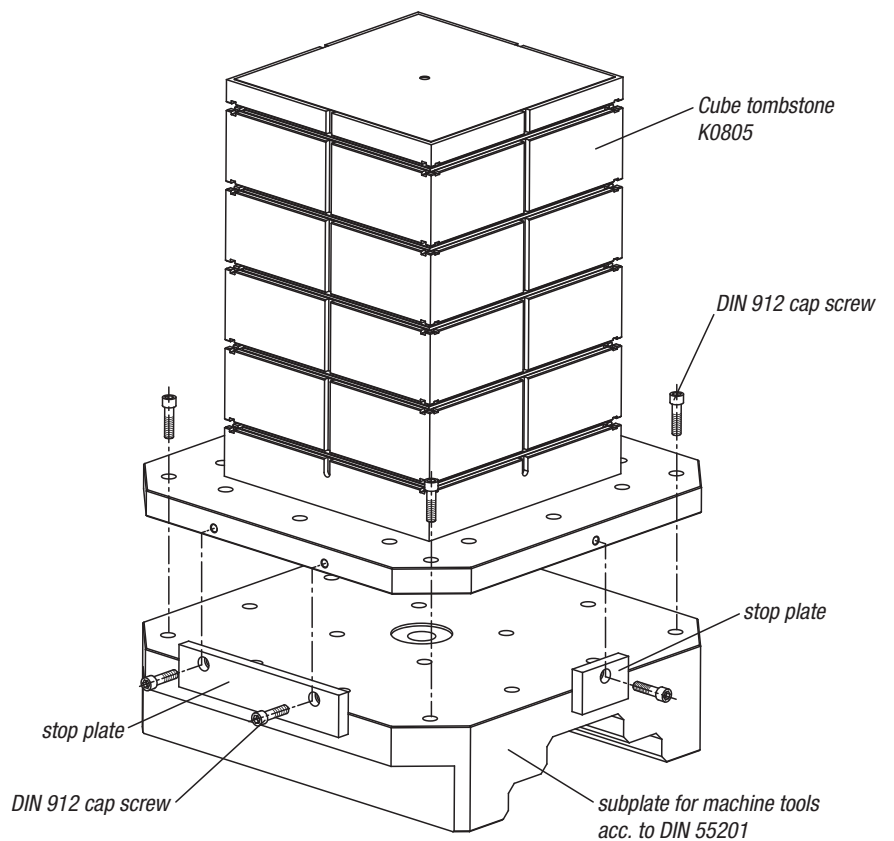
1. Insert locating pin in the centre bore of the subplate.
2. Position the tombstones, cube tombstones and subplates over the central hole.
3. Use the locating pin for the aligning hole to align the basic elements.



b) Positioning on subplates for machine tools acc. to JIS 6337-1980.

Positioning procedure:

1. Mount stop plates on the machine table.
2. Attach stop points to the reference faces (stop plates) using socket head screws.

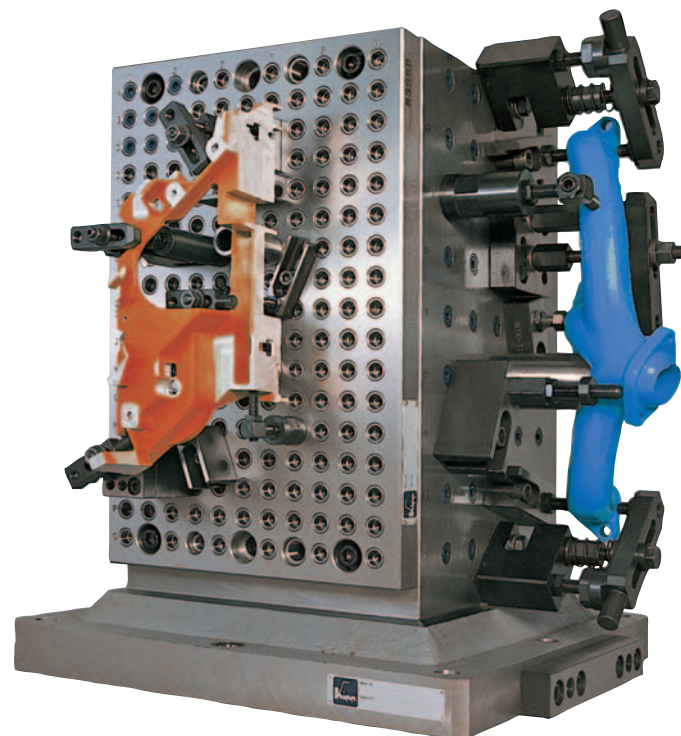
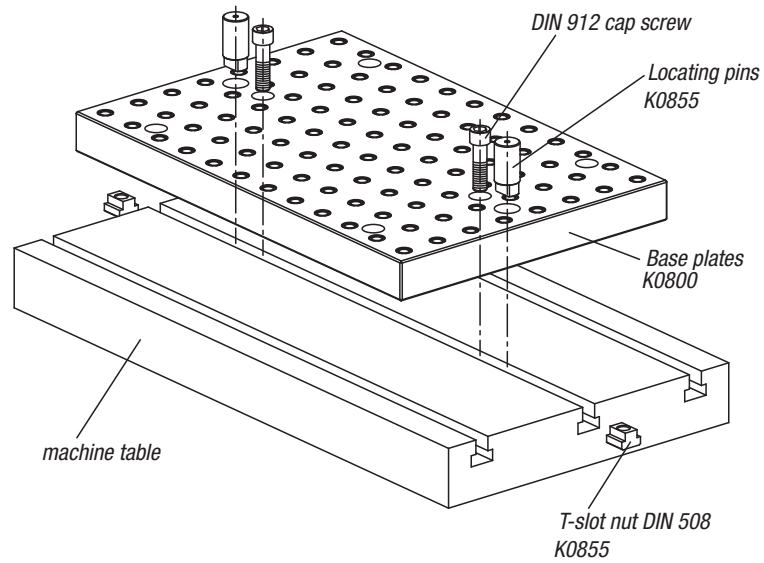


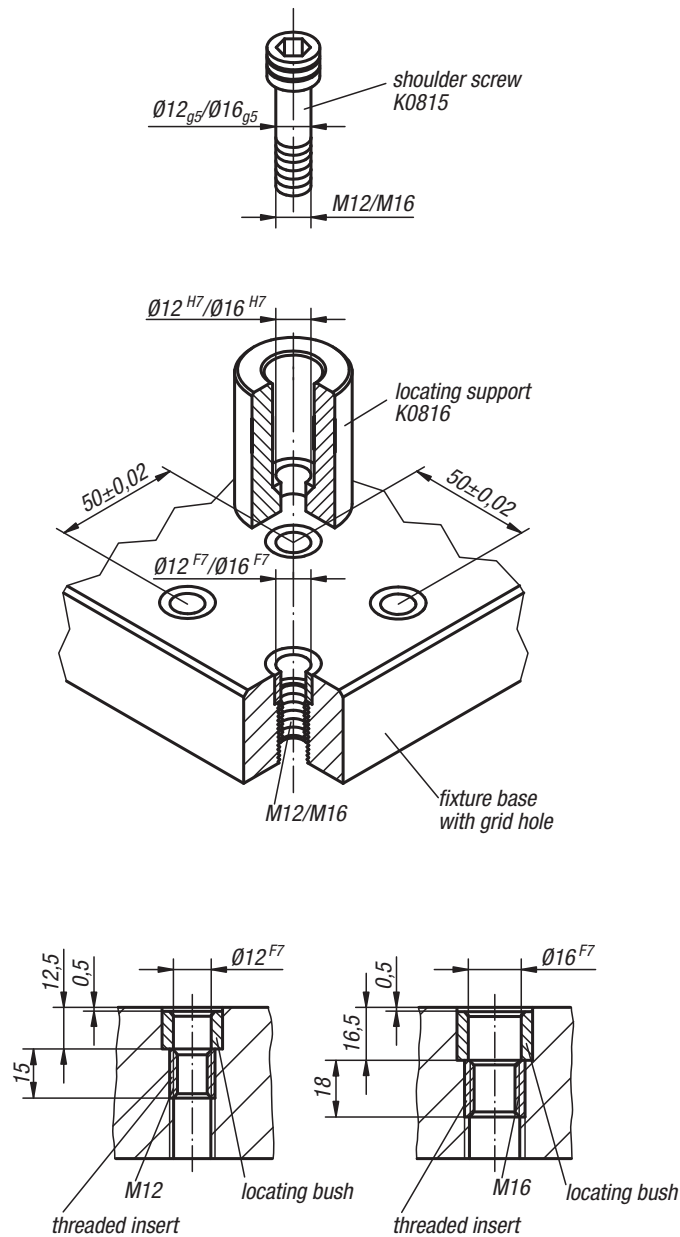
Positioning base elements on machine tables



Locating pins are used for positioning tooling plates K0800. The tooling plates each have four precision holes for the locating pins (two holes on each axis).

An M6 screw inserted into the head of the locating pin is used to insert this pin accurately into the T-slots or to remove it.





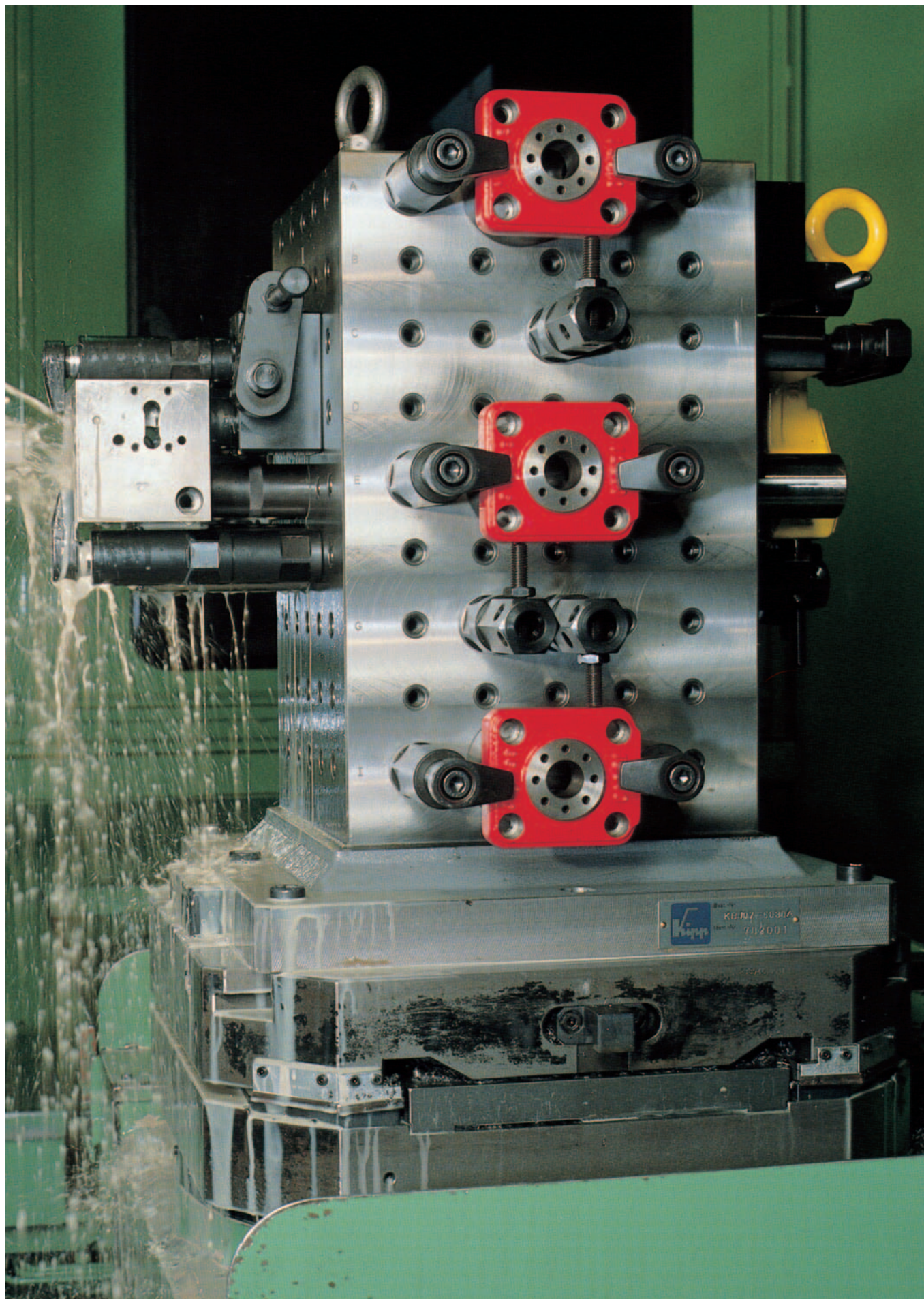
Grid hole:

The characteristic feature of the grid hole is its dual function: the coaxial arrangement of the locating and the threaded parts allows positioning and fastening at the same time with one grid hole (see illustrations). As a result, the size of the fixture elements can be reduced to a minimum and their flexibility increased accordingly.

Each grid hole consists of two parts:

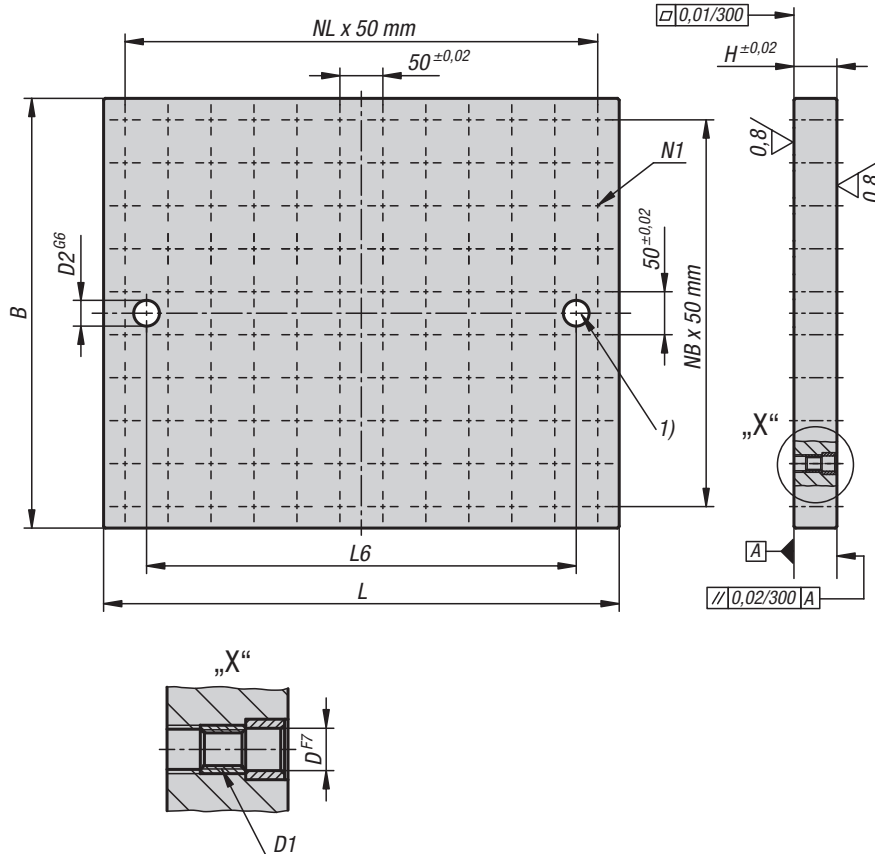
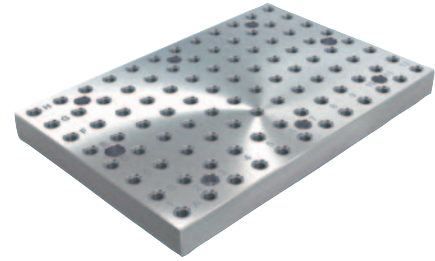
- reamed bush. Material: hardened tool steel.
- threaded insert. Material: carbon steel, tempered to ca. 1100-1300 N/mm².

Since the reamed bushes are recessed 0.5 mm from the surface of the fixture bases, the mounting surfaces can be re-machined in the event of wear.



Baseplates, grey cast iron

with grid holes



Material:
GJL 300.

Version:
Support and mounting surfaces ground

Sample order:
K0800.21240060

Note:
Grid spacing 50 ± 0.02 mm.
Baseplates with grid holes are used for constructing modular fixtures. These baseplates are positioned and mounted directly on machine tables. The two aligning holes are used to align the baseplate on the machine table. Fastening holes are produced by the customer to suit their machine table. The alphanumerically labelled grid holes guarantee a defined assignment of clamping elements by repeat setups. Please order positioning pins to equip the baseplates separately. Please order protection plugs to plug unused grid holes separately.. Ring bolts for hoisting are supplied. Other dimensions available on request.

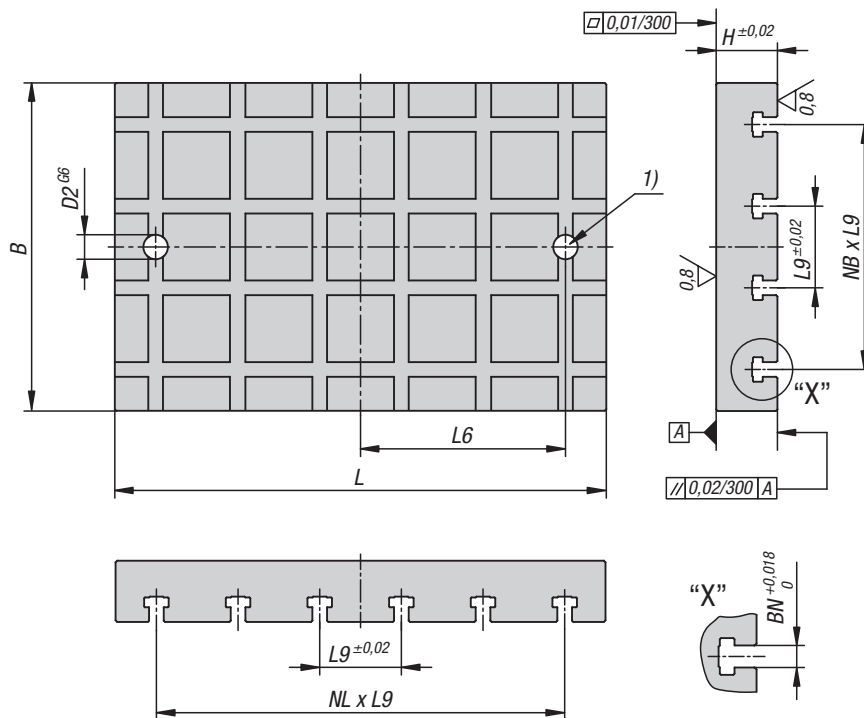
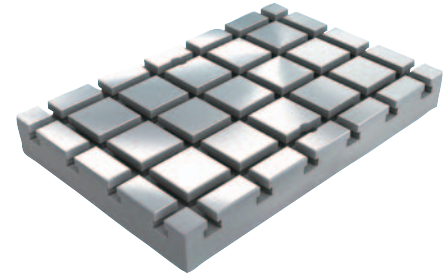
Drawing reference:
1) locating hole

KIPP Baseplates, grey cast iron with grid holes

Order No.	L	B	H	L6	D	D1	D2	N1=No. of grid holes	NL=No. lengthwise	NB=No. across
K0800.21240060	600	400	50	500	12	M12	30	96	11	7
K0800.21250060	600	500	50	500	12	M12	30	120	11	9
K0800.21260060	600	600	50	500	12	M12	30	144	11	11
K0800.21240080	800	400	50	700	12	M12	30	128	15	7
K0800.21245090	900	450	50	800	12	M12	30	158	17	8
K0800.21250100	1000	500	50	900	12	M12	30	200	19	9
K0800.21260120	1200	600	50	1100	12	M12	30	288	23	11
K0800.21640060	600	400	50	500	16	M16	30	96	11	7
K0800.21650060	600	500	50	500	16	M16	30	120	11	9
K0800.21660060	600	600	50	500	16	M16	30	144	11	11
K0800.21640080	800	400	50	700	16	M16	30	128	15	7
K0800.21645090	900	450	50	800	16	M16	16	158	17	8
K0800.21650100	1000	500	50	900	16	M16	30	200	19	9
K0800.21660120	1200	600	50	1100	16	M16	30	288	23	11

Baseplates, grey cast iron

with T-slots



Material:
GJL 300.

Version:
Support and mounting surfaces ground

Sample order:
K0800.31440060

Note:
Baseplates with T-slots are used for constructing modular fixtures. These baseplates are positioned and mounted directly on machine tables. The precise longitudinal and transverse slot spacing ensures very high repeat clamping accuracy. The two aligning holes are used to align the baseplate on the machine table. Fastening holes are produced by the customer to suit their machine table. Please order positioning pins to equip the baseplates separately. Ring bolts with T-nuts for hoisting are supplied. Other dimensions available on request.

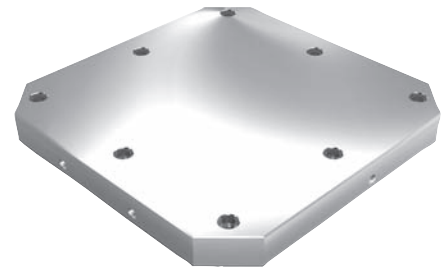
Drawing reference:
1) locating hole

KIPP Baseplates, grey cast iron with T-slots

Order No. BN=slot width 14	Order No. BN=slot width 18	L	B	H	D2	L6	L9	NL=No. lengthwise	NB=No. across
K0800.31440060	K0800.31840060	600	400	60/75	30	500	100	5	3
K0800.31450060	K0800.31850060	600	500	60/75	30	500	100	5	4
K0800.31460060	K0800.31860060	600	600	60/75	30	500	100	5	5
K0800.31440080	K0800.31840080	800	400	60/75	30	700	100	7	3
K0800.31445090	K0800.31845090	900	450	60/75	30	800	100	8	3
K0800.31450100	K0800.31850100	1000	500	60/75	30	900	100	9	4
K0800.31460120	K0800.31860120	1200	600	60/75	30	1100	100	11	5

Subplates, grey cast iron

with pre-machined clamping faces



Material:

GJL 300.

Version:

Support and mounting surfaces ground

Sample order:

K0806.1004040

Note:

Subplates with pre-machined clamping faces provide a quick and economic way of producing bodies with specific grid or individual holes. The subplates conform to machine tables for machine tools acc. to DIN 55201 and JIS 6337-1980.

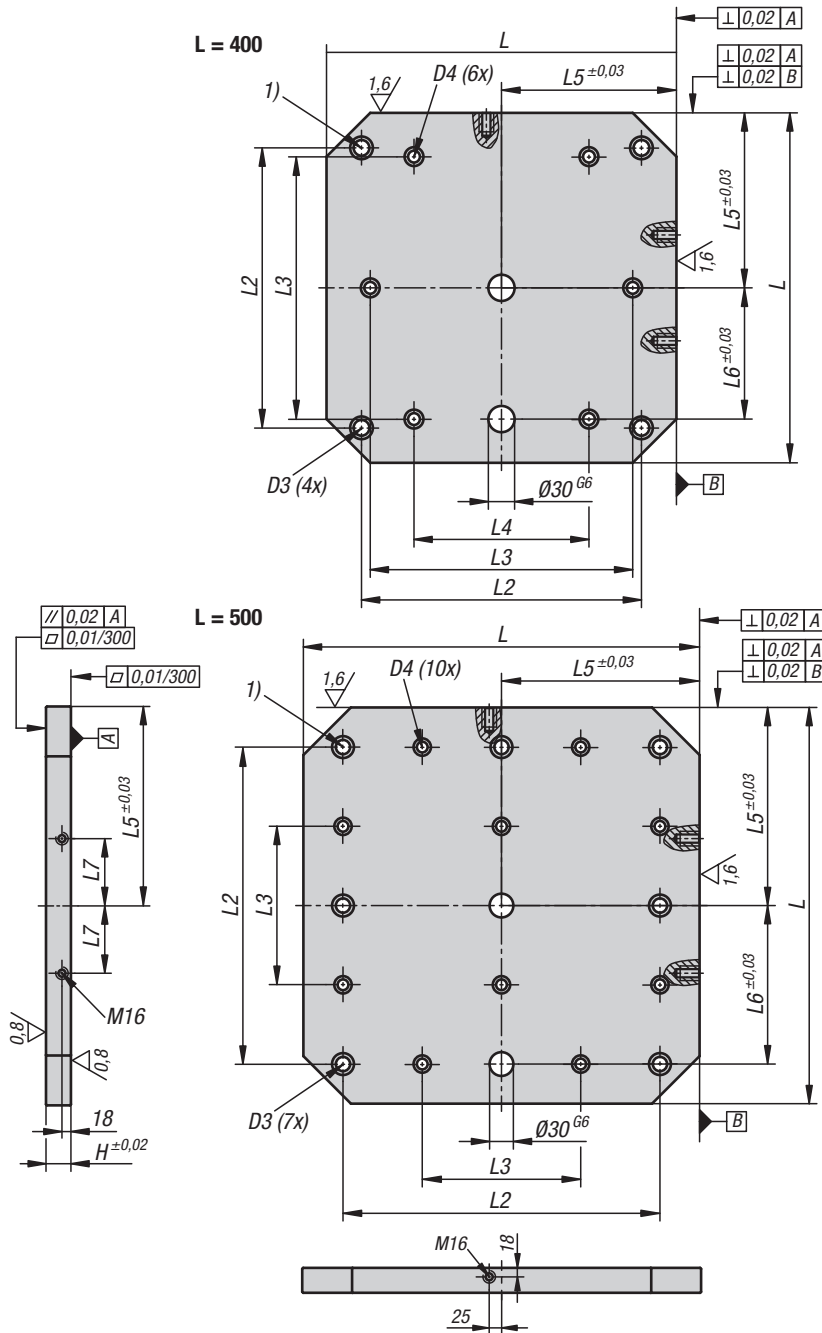
Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately.

Ring bolts for hoisting are supplied.

Other dimensions available on request.

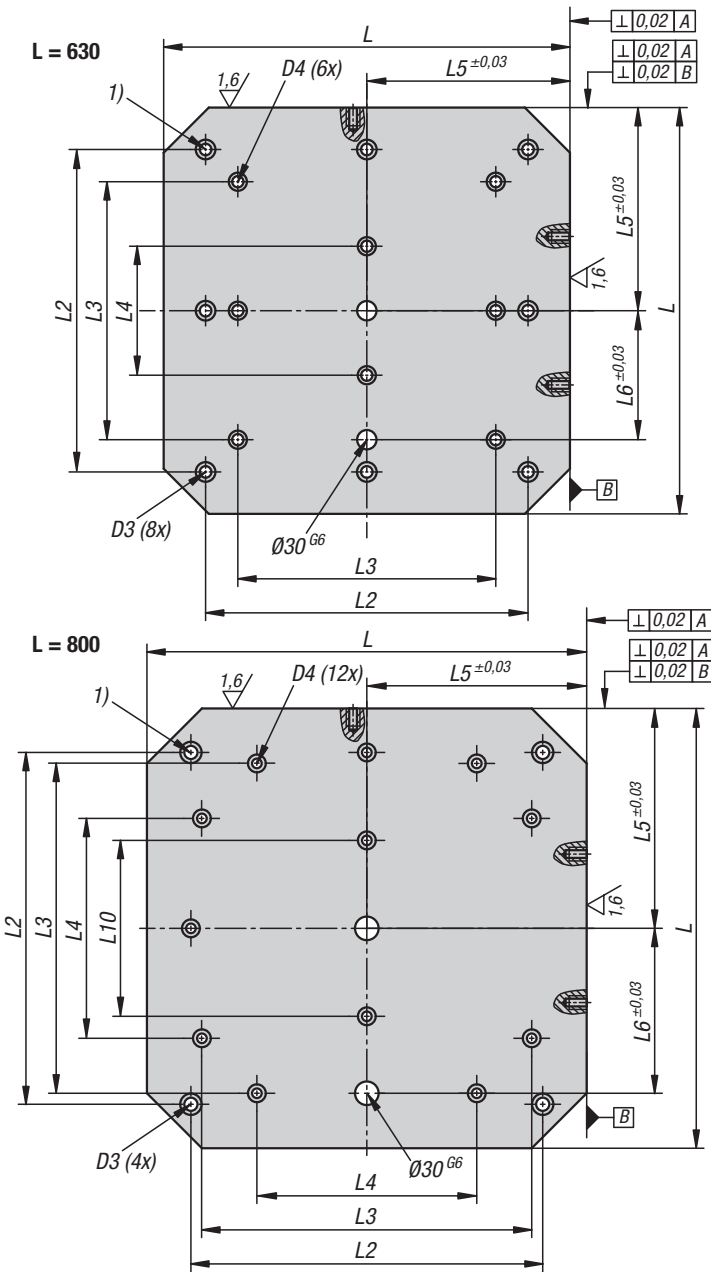
Drawing reference:

1) hole for DIN 912 cap screw (D3/D4)



Subplates, grey cast iron

with pre-machined clamping faces

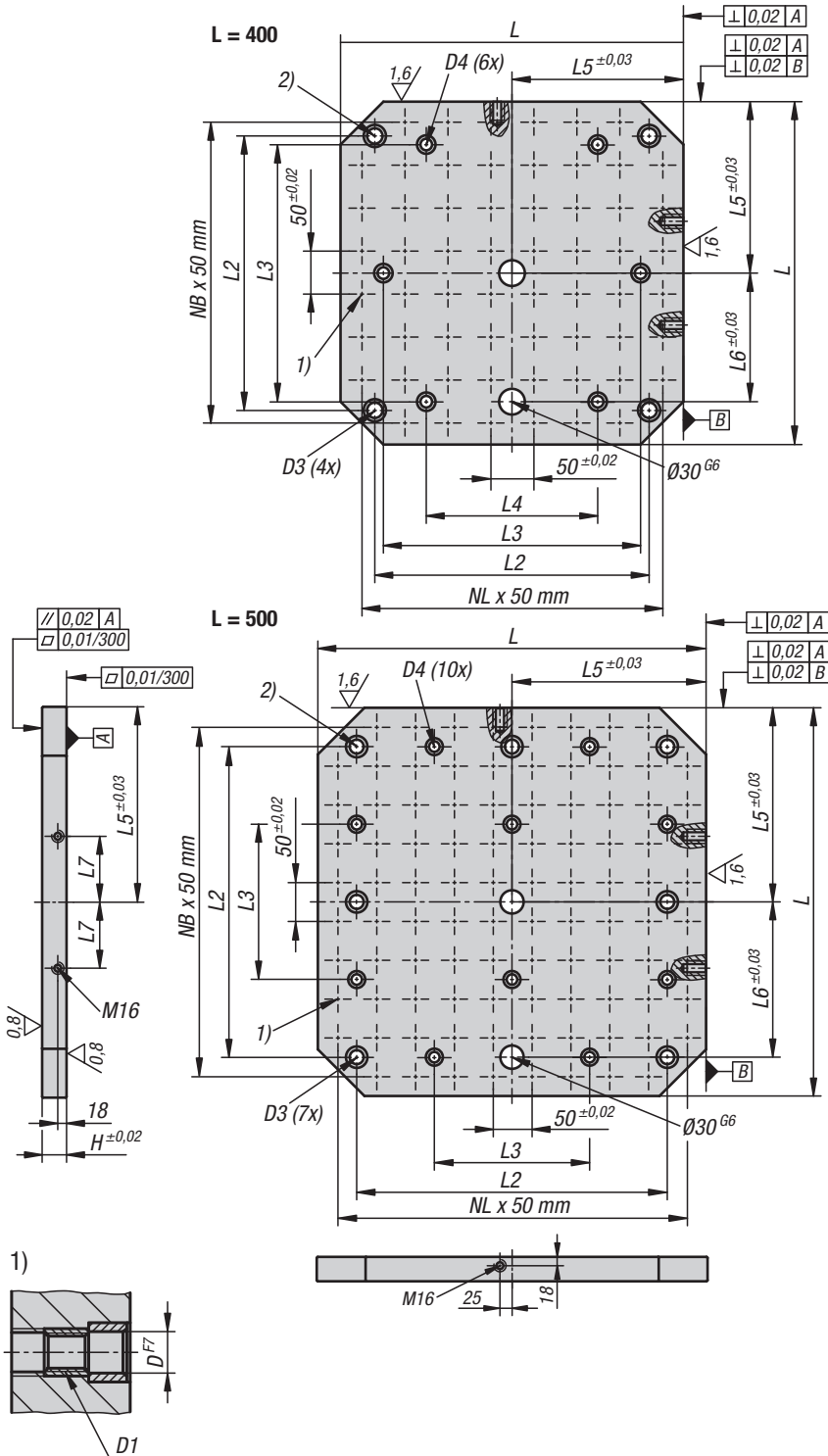
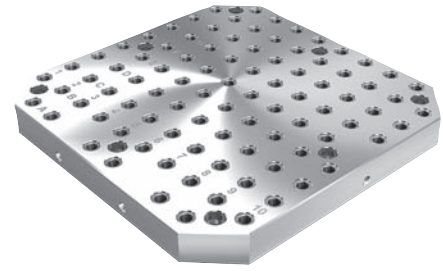


KIPP Subplates, grey cast iron with pre-machined clamping faces

Order No.	L	H	D3	D4	L2	L3	L4	L5	L6	L7	L10
K0806.1004040	400	50	M16	M12	320	300	200	200	150	55	-
K0806.1005050	500	50	M16	M12	400	200	-	250	200	75	-
K0806.1006363	630	50	M16	M16	500	400	200	315	200	100	-
K0806.1008080	800	50	M16	M16	640	600	400	400	300	135	320

Subplates, grey cast iron

with grid holes



Material:
GJL 300.

Version:
Support and mounting surfaces ground

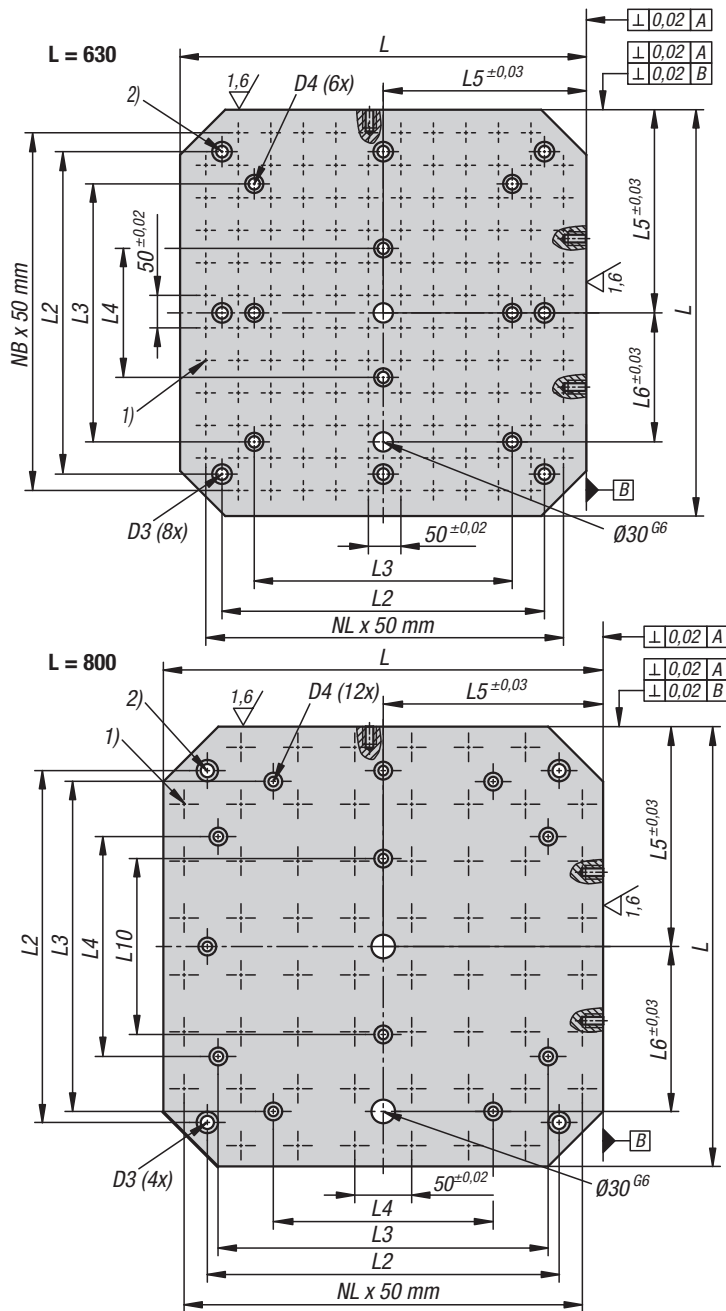
Sample order:
K0806.2124040

Note:
Grid spacing 50 ± 0.02 mm.
Plates with grid holes are used for constructing modular fixtures. These plates are positioned and fastened directly on machine tables. The alphanumerically labelled grid holes guarantee a defined assignment of clamping elements by repeat setups. The subplates conform to machine tables for machine tools acc. to DIN 55201 and JIS 6337-1980. Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately. Please order protection plugs to plug unused grid holes separately. Ring bolts for hoisting are supplied. Other dimensions available on request.

Drawing reference:
1) grid hole
2) hole for DIN 912 cap screw (D3/D4)

Subplates, grey cast iron

with grid holes

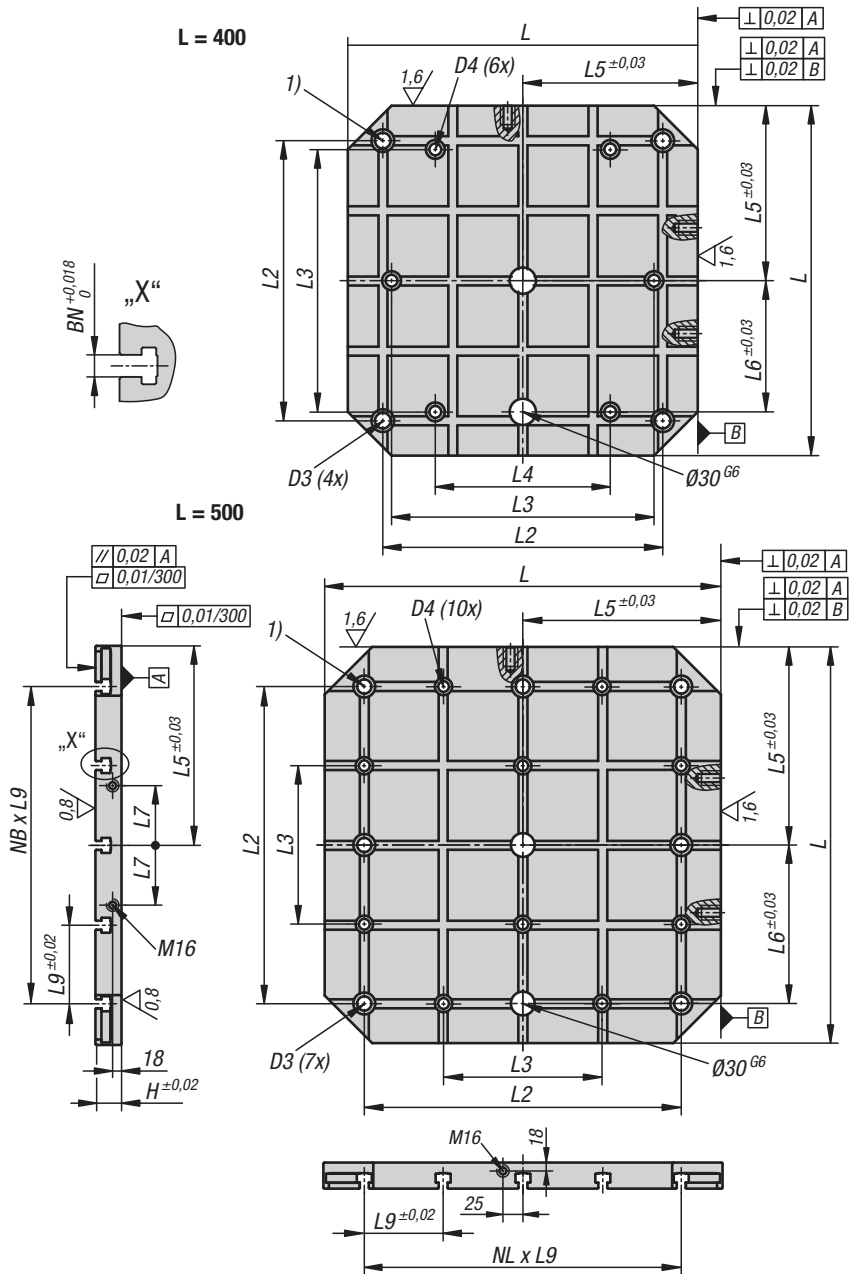
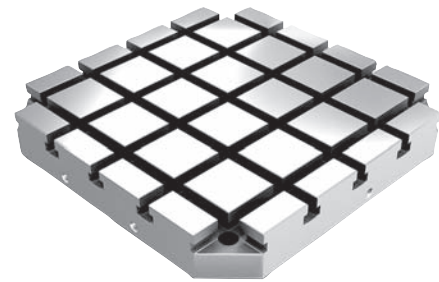


KIPP Subplates, grey cast iron with grid holes

Order No.	L	H	D	D1	D3	D4	L2	L3	L4	L5	L6	L7	L10	N1=No. of grid holes	NL=No. lengthwise	NB=No. across
K0806.2124040	400	50	12	M12	M16	M12	320	300	200	200	150	55	-	59	7	7
K0806.2125050	500	50	12	M12	M16	M12	400	200	-	250	200	75	-	93	9	9
K0806.2126363	630	50	12	M12	M16	M16	500	400	200	315	200	100	-	139	11	11
K0806.2128080	800	50	12	M12	M16	M16	640	600	400	400	300	135	320	237	15	15
K0806.2164040	400	50	16	M16	M16	M12	320	300	200	200	150	55	-	59	7	7
K0806.2165050	500	50	16	M16	M16	M12	400	200	-	250	200	75	-	93	9	9
K0806.2166363	630	50	16	M16	M16	M16	500	400	200	315	200	100	-	139	11	11
K0806.2168080	800	50	16	M16	M16	M16	640	600	400	400	300	135	320	237	15	15

Subplates, grey cast iron

with T-slots



Material:
GJL 300.

Version:
Support and mounting surfaces ground

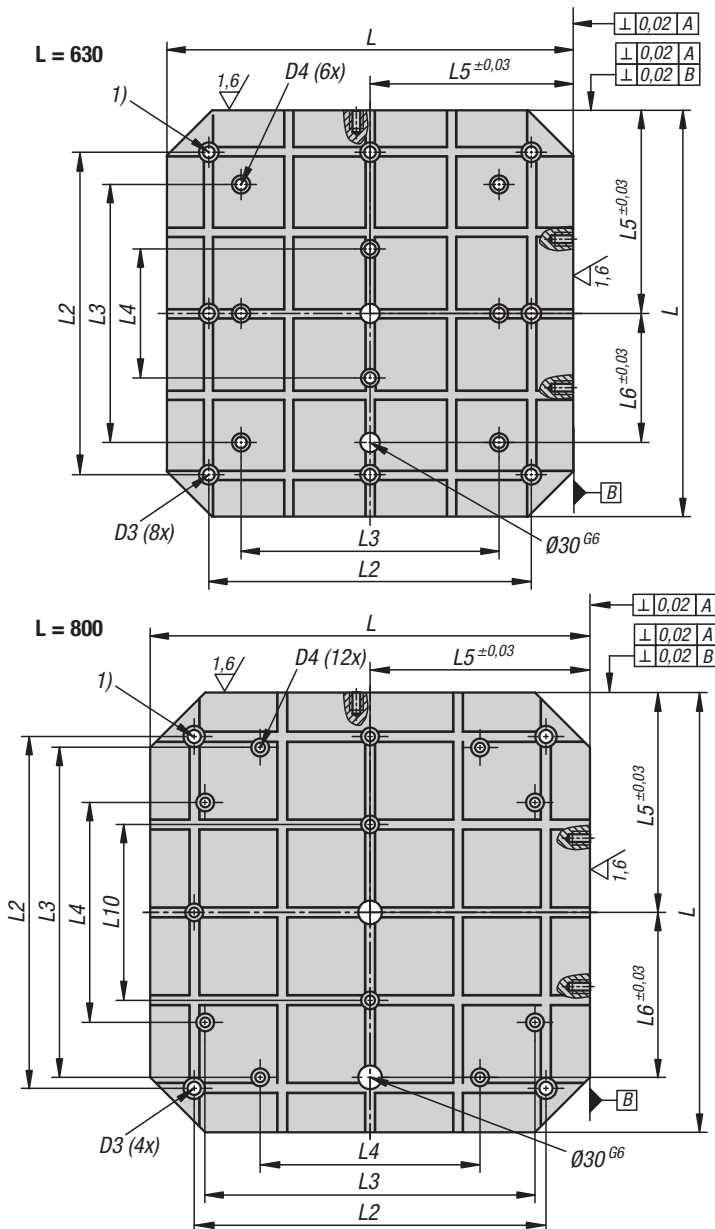
Sample order:
K0806.3144040

Note:
Subplates with T-slots are used for constructing modular fixtures. These subplates are positioned and fastened directly on machine tables. The precise longitudinal and transverse slot spacing ensures very high repeat clamping accuracy. The subplates conform to machine tables for machine tools acc. to DIN 55201 and JIS 6337-1980. Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately. Ring bolts with T-nuts for hoisting are supplied. Other dimensions available on request.

Drawing reference:
1) hole for DIN 912 cap screw (D3/D4)

Subplates, grey cast iron

with T-slots



KIPP Subplates, grey cast iron with T-slots

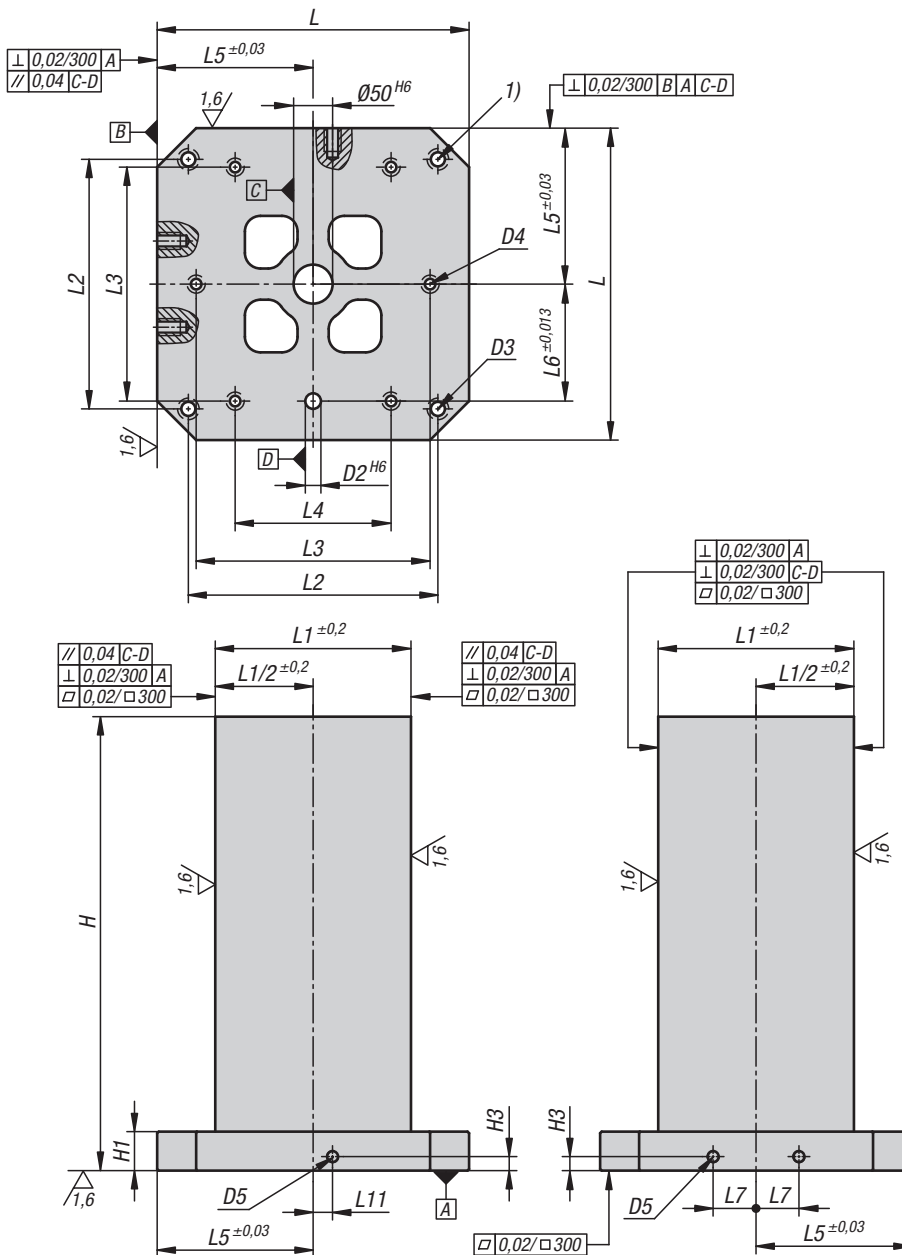
Order No.	L	H	D3	D4	L2	L3	L4	L5	L6	L7	L9	L10	Slot width	NL=No. lengthwise	NB=No. across
K0806.3144040	400	60	M16	M12	320	300	200	200	150	55	80	-	14	4	4
K0806.3145050	500	60	M16	M12	400	200	-	250	200	75	100	-	14	4	4
K0806.3146363	630	60	M16	M16	500	400	200	315	200	100	125	-	14	4	4
K0806.3148080	800	60	M16	M16	640	600	400	400	300	135	160	320	14	4	4
K0806.3184040	400	75	M16	M12	320	300	200	200	150	55	80	-	18	4	4
K0806.3185050	500	75	M16	M12	400	200	-	250	200	75	100	-	18	4	4
K0806.3186363	630	75	M16	M16	500	400	200	315	200	100	125	-	18	4	4
K0806.3188080	800	75	M16	M16	640	600	400	400	300	135	160	320	18	4	4

Workholding cubes, grey cast iron

with pre-machined clamping faces



L = 300/400



Material:

GJL 300.

Version:

Support and clamping faces are precision-machined. The clamping faces have a +0.5 mm allowance.

Sample order:

K0805.100030050

Note:

Workholding cubes with pre-machined clamping faces provide a quick and economic way of producing base elements with specific grid or individual holes. The foot is ready for mounting on the machine table. The four clamping faces can be machined to the end dimensions by the user. The workholding cubes conform to machine tables for machine tools acc. to DIN 55201 and JIS 6337-1980.

Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately. Ring bolts for hoisting are supplied. Other dimensions available on request.

Drawing reference:

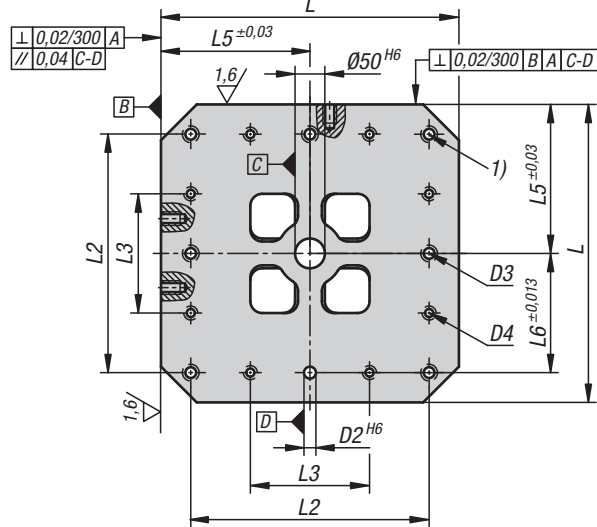
1) hole for DIN 912 cap screw (D3/D4)

Workholding cubes, grey cast iron

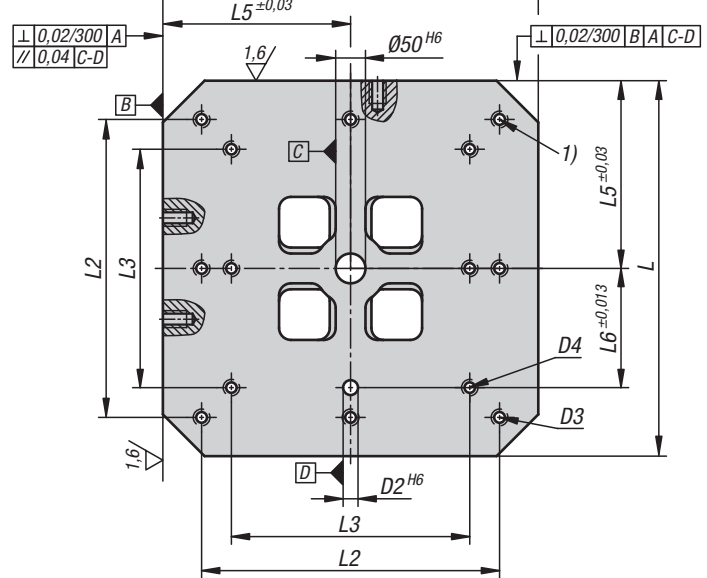
with pre-machined clamping faces



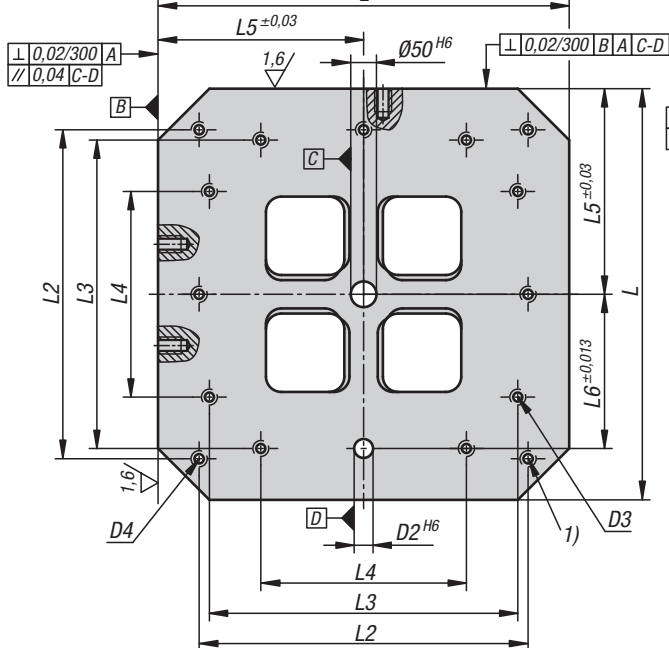
L = 500



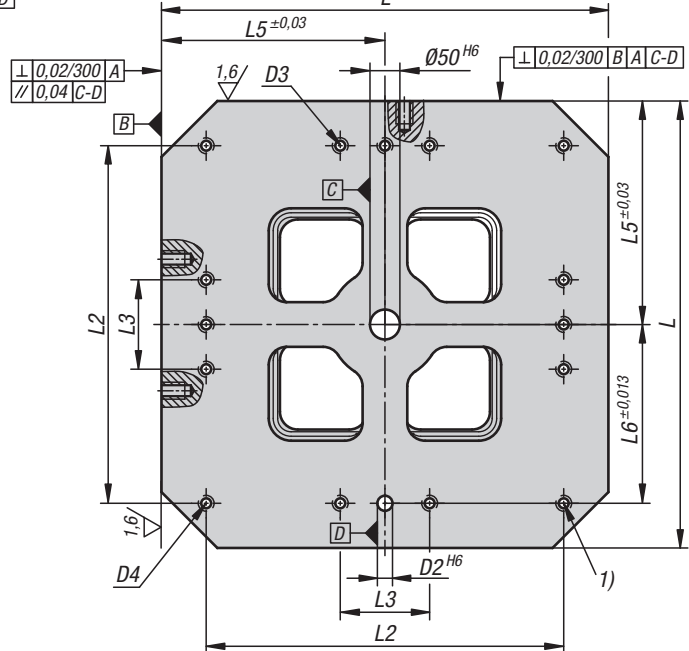
L = 630



L = 800



L = 1000

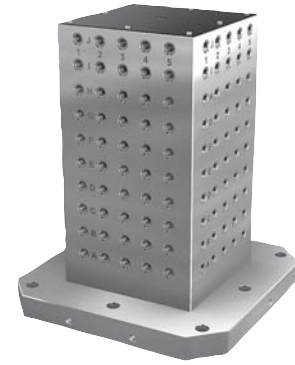


KIPP Workholding cubes, grey cast iron with pre-machined clamping faces

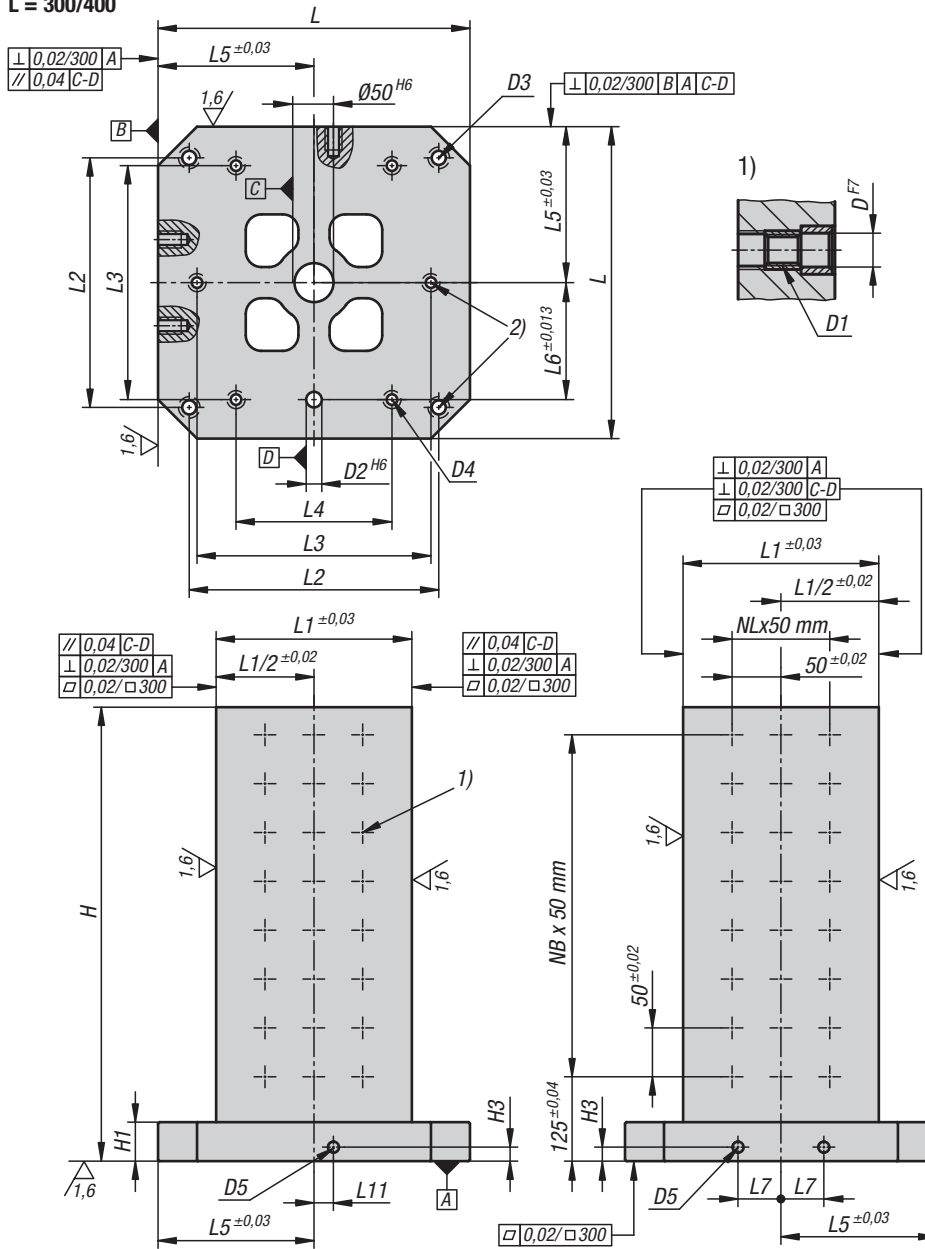
Order No.	L	H	H1	D2	D3	D4	D5	H3	L1	L2	L3	L4	L5	L6	L7	L11
K0805.100030050	300	500	50	20	M12	M10	M12	15	151	250	200	-	150	100	40	0
K0805.100040050	400	500	50	20	M16	M12	M16	18	251	320	300	200	200	150	55	25
K0805.100040065	400	650	50	20	M16	M12	M16	18	251	320	300	200	200	150	55	25
K0805.100050060	500	600	50	20	M16	M12	M16	18	301	400	200	-	250	200	75	25
K0805.100050075	500	750	50	20	M16	M12	M16	18	301	400	200	-	250	200	75	25
K0805.100063070	630	700	50	25	M16	M16	M16	18	351	500	400	-	315	200	100	25
K0805.100063085	630	850	50	25	M16	M16	M16	18	351	500	400	-	315	200	100	25
K0805.100080080	800	800	50	25	M16	M16	M16	18	501	640	600	400	400	300	135	25
K0805.100080100	800	1000	50	25	M16	M16	M16	18	501	640	600	400	400	300	135	25
K0805.100100100	1000	1000	55	25	M20	M20	M16	18	601	800	200	-	500	400	165	25
K0805.100100125	1000	1250	55	25	M20	M20	M16	18	601	800	200	-	500	400	165	25

Workholding cubes, grey cast iron

with grid holes



L = 300/400



Material:
GJL 300.

Version:
Support and mounting surfaces precision machined

Sample order:
K0805.212030050

Note:
Grid spacing $50 \pm 0,02$ mm.
Tombstones with grid holes are used on horizontal machining centres.
The alphanumerically labelled grid holes guarantee a defined assignment of clamping elements by repeat setups.
The tombstones conform to machine tables for machine tools acc. to DIN 55201 and JIS 6337-1980.
Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately.
Please order protection plugs to plug unused grid holes separately.
Ring bolts for hoisting are supplied.
Other dimensions available on request.

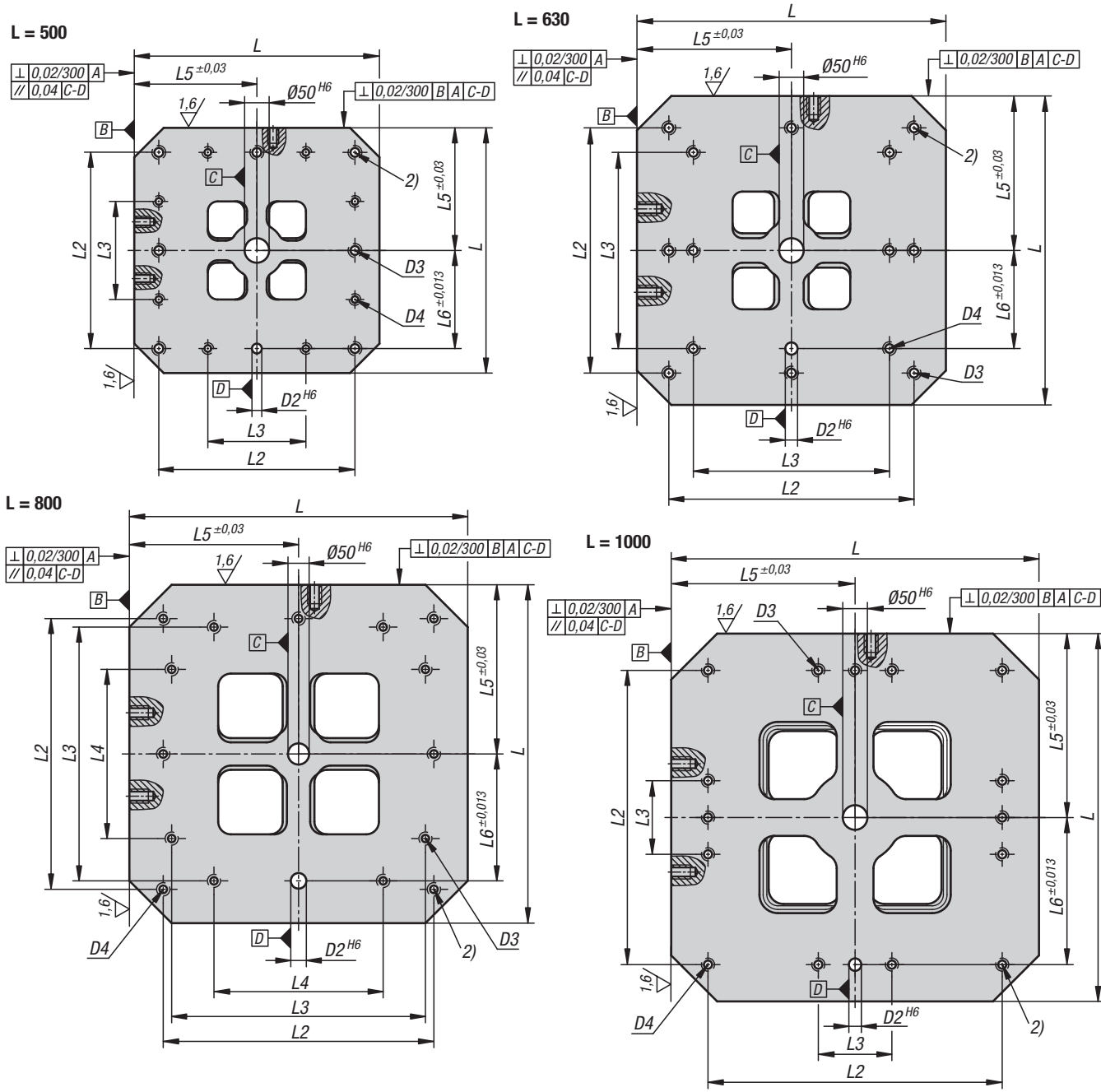
Drawing reference:
1) grid hole
2) hole for DIN 912 cap screw (D3/D4)

KIPP Workholding cubes, grey cast iron with grid holes

Order No. D=Reamed hole 12	Order No. D=Reamed hole 16	L	H	H1	D1	D2	D3	D4	D5	H3	L1	L2
K0805.212030050	K0805.216030050	300	500	50	M12/M16	20	M12	M10	M12	15	150	250
K0805.212040050	K0805.216040050	400	500	50	M12/M16	20	M16	M12	M16	18	250	320
K0805.212040065	K0805.216040065	400	650	50	M12/M16	20	M16	M12	M16	18	250	320
K0805.212050060	K0805.216050060	500	600	50	M12/M16	20	M16	M12	M16	18	300	400
K0805.212050075	K0805.216050075	500	750	50	M12/M16	20	M16	M12	M16	18	300	400
K0805.212063070	K0805.216063070	630	700	50	M12/M16	25	M16	M16	M16	18	350	500
K0805.212063085	K0805.216063085	630	850	50	M12/M16	25	M16	M16	M16	18	350	500
K0805.212080080	K0805.216080080	800	800	50	M12/M16	25	M16	M16	M16	18	500	640
K0805.212080100	K0805.216080100	800	1000	50	M12/M16	25	M16	M16	M16	18	500	640
K0805.212100100	K0805.216100100	1000	1000	55	M12/M16	25	M20	M20	M16	18	600	800
K0805.212100125	K0805.216100125	1000	1250	55	M12/M16	25	M20	M20	M16	18	600	800

Workholding cubes, grey cast iron

with grid holes



KIPP Workholding cubes, grey cast iron with grid holes

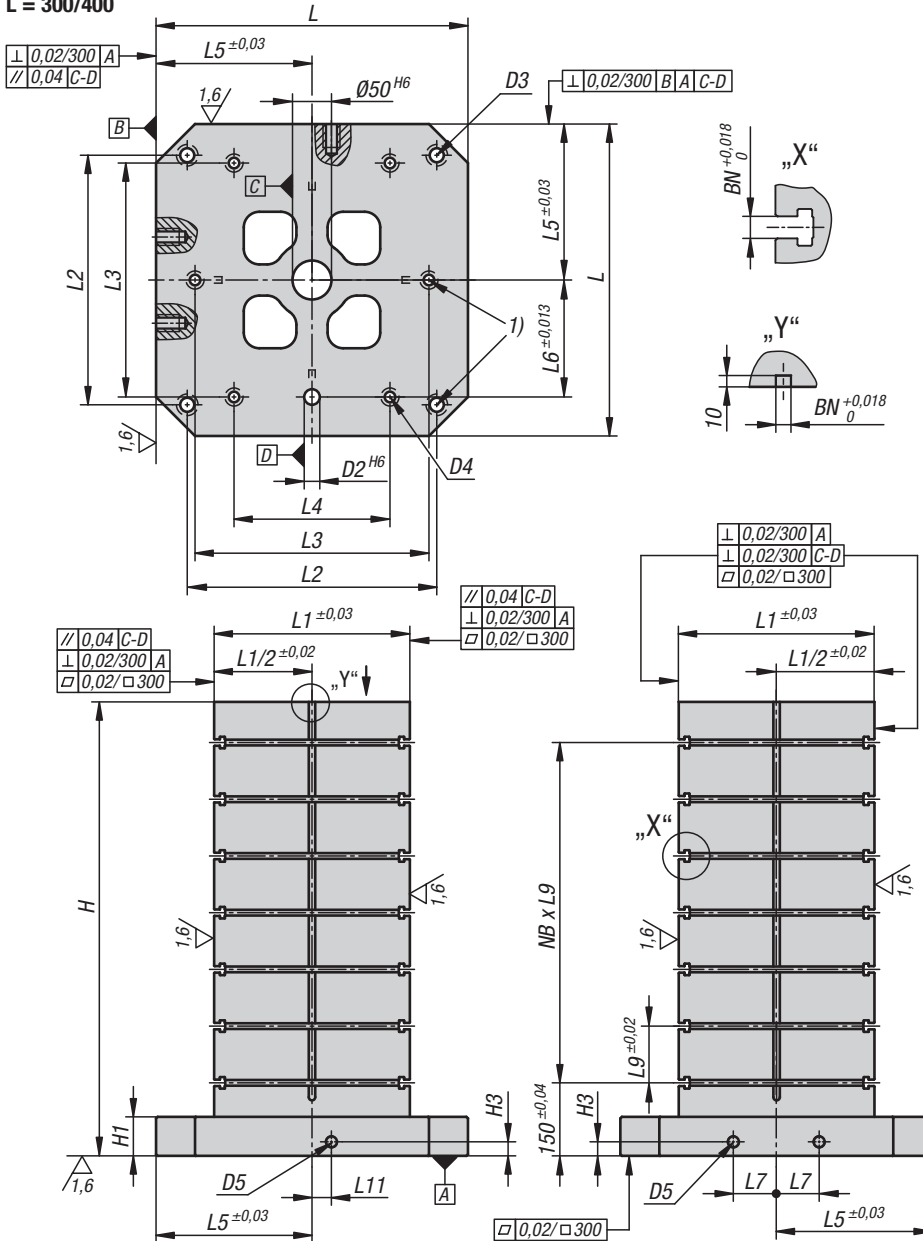
Order No. D=Reamed hole 12	Order No. D=Reamed hole 16	L3	L4	L5	L6	L7	L11	No. of grid holes	NL=No. lengthwise	NB=No. across
K0805.212030050	K0805.216030050	200	-	150	100	40	0	64	1	7
K0805.212040050	K0805.216040050	300	200	200	150	55	25	128	3	7
K0805.212040065	K0805.216040065	300	200	200	150	55	25	176	3	10
K0805.212050060	K0805.216050060	200	-	250	200	75	25	200	4	9
K0805.212050075	K0805.216050075	200	-	250	200	75	25	260	4	12
K0805.212063070	K0805.216063070	400	-	315	200	100	25	288	5	11
K0805.212063085	K0805.216063085	400	-	315	200	100	25	360	5	14
K0805.212080080	K0805.216080080	600	400	400	300	135	25	504	8	13
K0805.212080100	K0805.216080100	600	400	400	300	135	25	648	8	17
K0805.212100100	K0805.216100100	200	-	500	400	165	25	792	10	17
K0805.212100125	K0805.216100125	200	-	500	400	165	25	1012	10	22

Workholding cubes, grey cast iron

with T-slots



L = 300/400



Material:
G.JL 300.

Version:
Support and mounting surfaces precision machined

Sample order:
K0805.314040050

Note:
Tombstones with T-slots are used for constructing modular fixtures on horizontal machines. The precise longitudinal and transverse slot spacing ensures very high repeat clamping accuracy. The tombstones conform to machine tables for machine tools acc. to DIN 55201 and JIS 6337-1980. Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately. Ring bolts for hoisting are supplied. Other dimensions available on request.

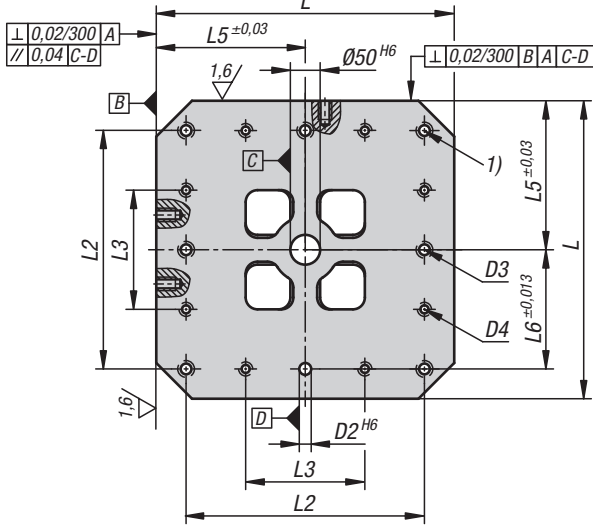
Drawing reference:
1) hole for DIN 912 cap screw (D3/D4)

Workholding cubes, grey cast iron

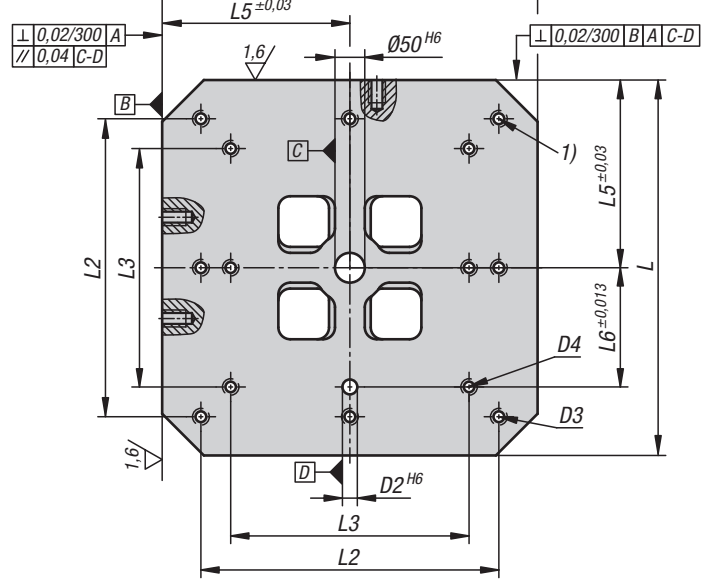
with T-slots



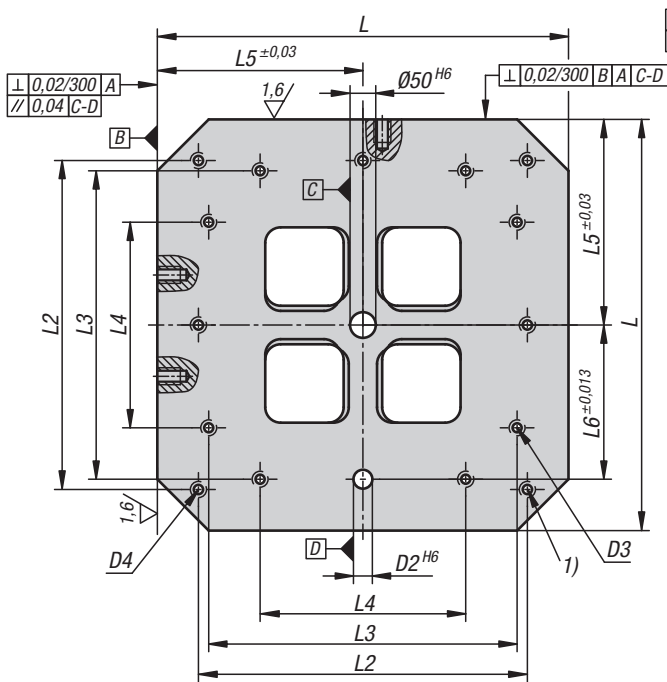
L = 500



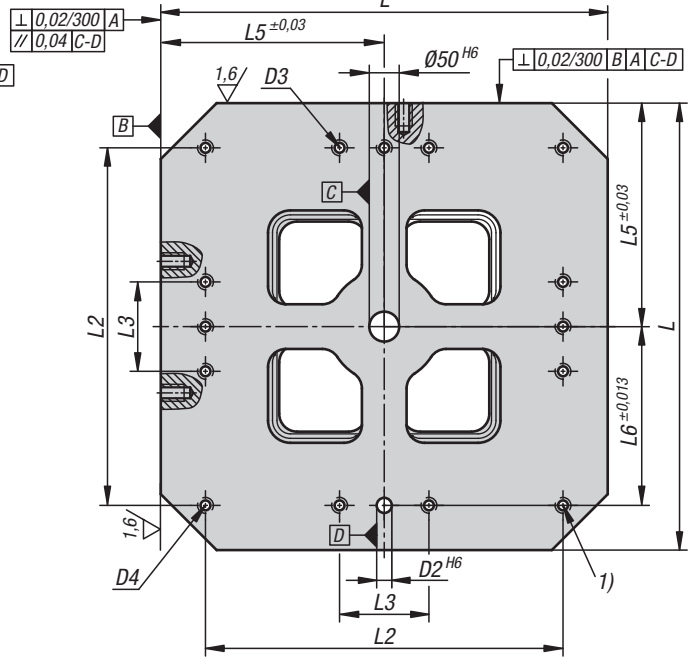
L = 630



L = 800



L = 1000

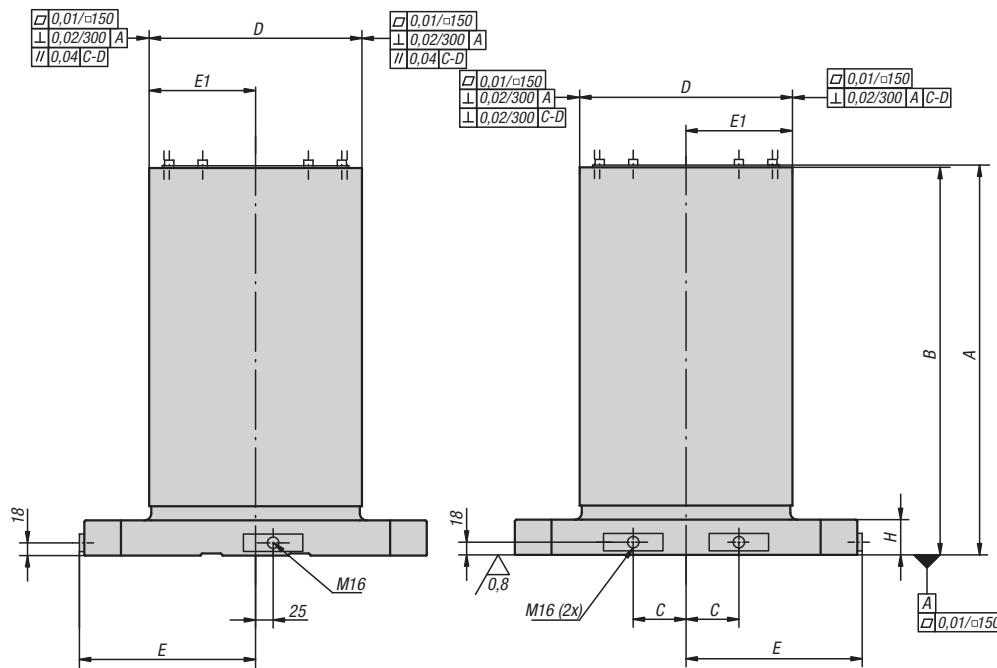


KIPP Workholding cubes, grey cast iron with T-slots

Order No. BN=slot width 14	Order No. BN=slot width 18	L	H	H1	D2	D3	D4	D5	H3	L1	L2	L3	L4	L5	L6	L7	L9	L11	NB=No. across
K0805.314040050	K0805.318040050	400	500	50	20	M16	M12	M16	18	250	320	300	200	200	150	55	100	25	3
K0805.314040065	K0805.318040065	400	650	50	20	M16	M12	M16	18	250	320	300	200	200	150	55	100	25	4
K0805.314050060	K0805.318050060	500	600	50	20	M16	M12	M16	18	300	400	200	-	250	200	75	100	25	4
K0805.314050075	K0805.318050075	500	750	50	20	M16	M12	M16	18	300	400	200	-	250	200	75	100	25	5
K0805.314063070	K0805.318063070	630	700	50	25	M16	M16	M16	18	350	500	400	-	315	200	100	125	25	4
K0805.314063085	K0805.318063085	630	850	50	25	M16	M16	M16	18	350	500	400	-	315	200	100	125	25	5
K0805.314080080	K0805.318080080	800	800	50	25	M16	M16	M16	18	500	640	600	400	400	300	135	150	25	4
K0805.314080100	K0805.318080100	800	1000	50	25	M16	M16	M16	18	500	640	600	400	400	300	135	150	25	5
K0805.314100100	K0805.318100100	1000	1000	55	25	M20	M20	M16	18	600	800	200	-	500	400	165	160	25	5
K0805.314100125	K0805.318100125	1000	1250	55	25	M20	M20	M16	18	600	800	200	-	500	400	165	160	25	6

Tombstones cube

without grid holes



Material:
GJL 300.

Version:
Reference surfaces precision machined.
The clamping surfaces have 0.5 mm allowance.

Sample order:
K0805.005030

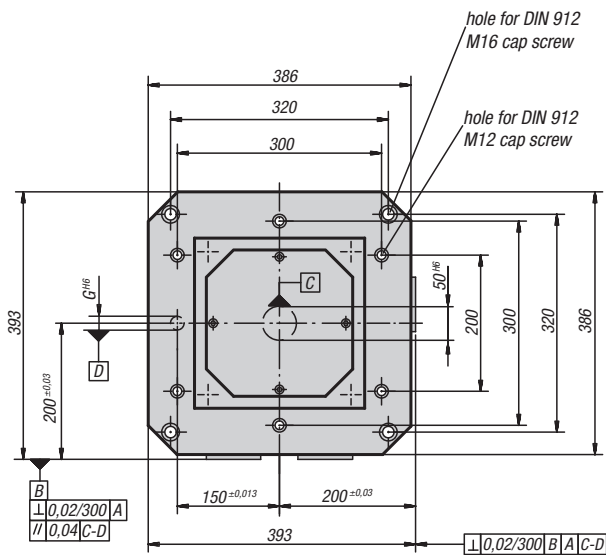
Note:
The cube tombstones are matched to subplates for machine tools acc. to DIN 55201 and JIS 6337-1980.
Ring bolts for lifting are supplied. A cover prevents the cavities filling with swarf.

Tombstones cube

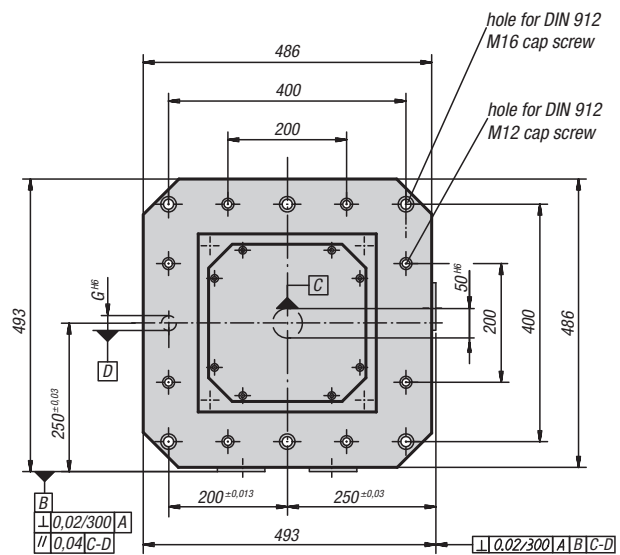
without grid holes



K0805.0040251



K0805.005030
K0805.0050301



KIPP Cube tombstones without grid holes

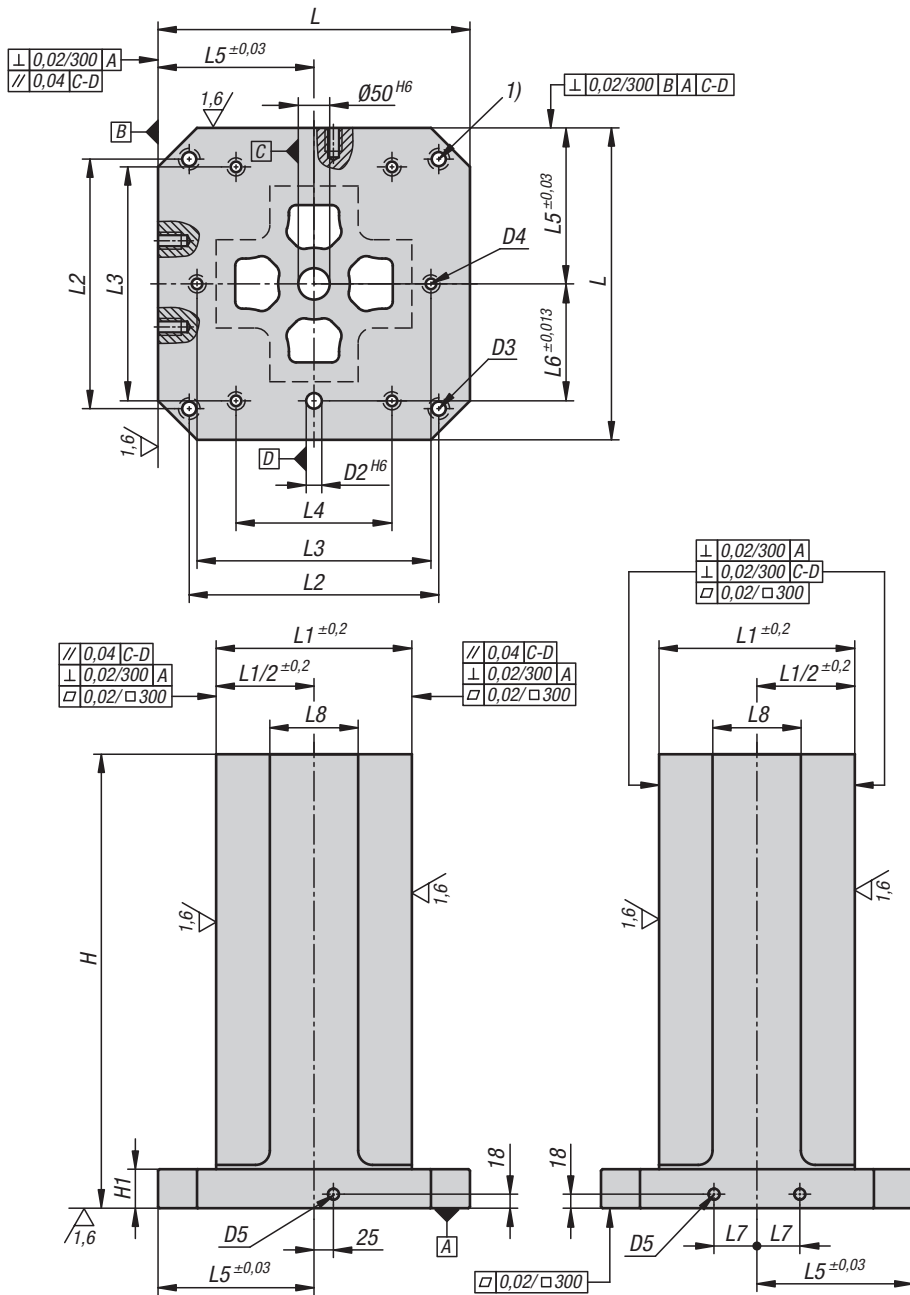
Order No.	A	B	C	D	E	E1	G	H	weight ca. kg
K0805.0040251	553	550	55	251 ±0,2	200	125,5 ±0,2	20	50	183
K0805.005030	553	550	75	301 ±0,2	250	150,5 ±0,2	20	50	231
K0805.0050301	653	650	75	301 ±0,2	250	150,5 ±0,2	20	50	268

Clamping towers, grey cast iron, 4-sided,

with pre-machined clamping faces



L = 400



Material:
GJL 300.

Version:
Support and clamping faces are precision-machined. The clamping faces have a +1 mm allowance.

Sample order:
K1533.10040050

Note:
Clamping towers with pre-machined clamping faces provide a fast and economic way of producing bodies with specific grid or individual holes. The base is ready for mounting on the machine table. The clamping faces can be machined to the end dimensions by the user. The clamping towers conform to machine tables for machine tools acc. to DIN 55201 and JIS6337-1980. Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately. Ring bolts for hoisting are supplied. Other dimensions available on request.

On request:
other dimensions.

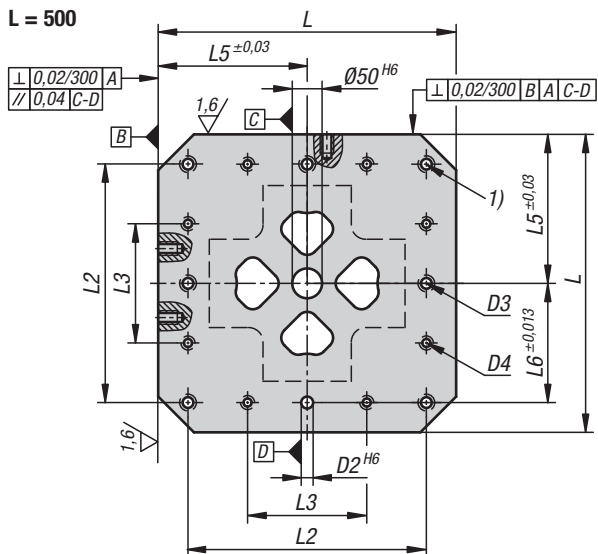
Drawing reference:
1) hole for DIN 912 cap screw (D3/D4)

Clamping towers, grey cast iron, 4-sided,

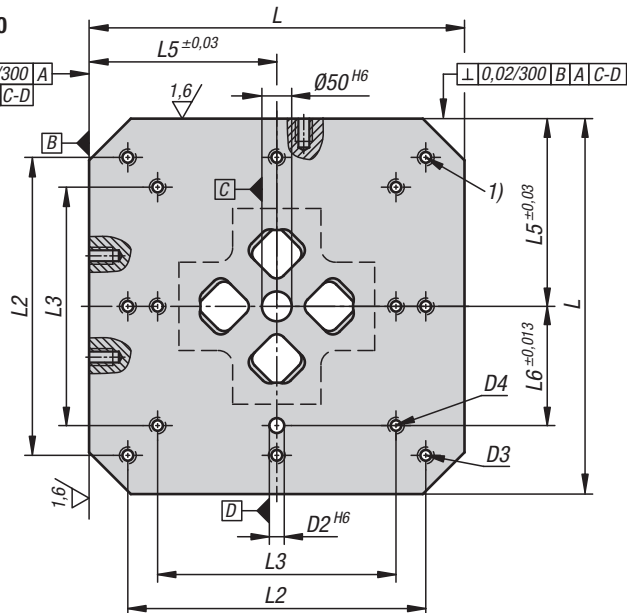
with pre-machined clamping faces



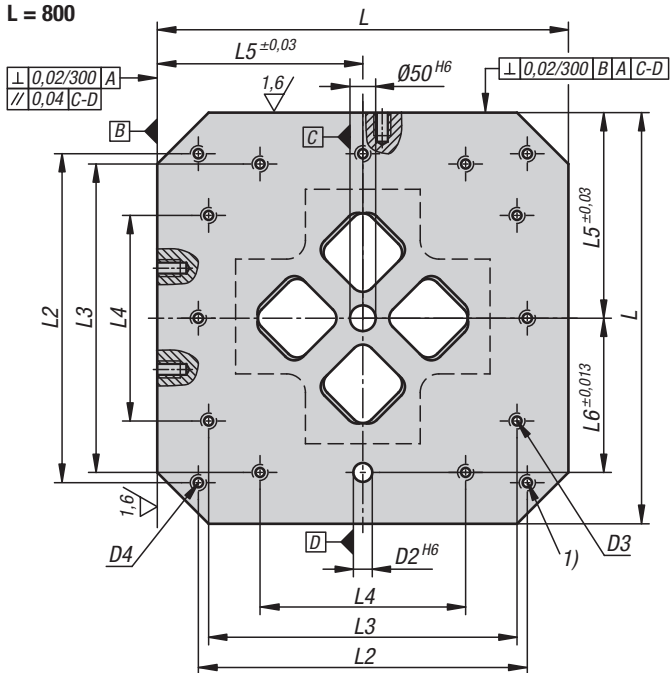
L = 500



L = 630



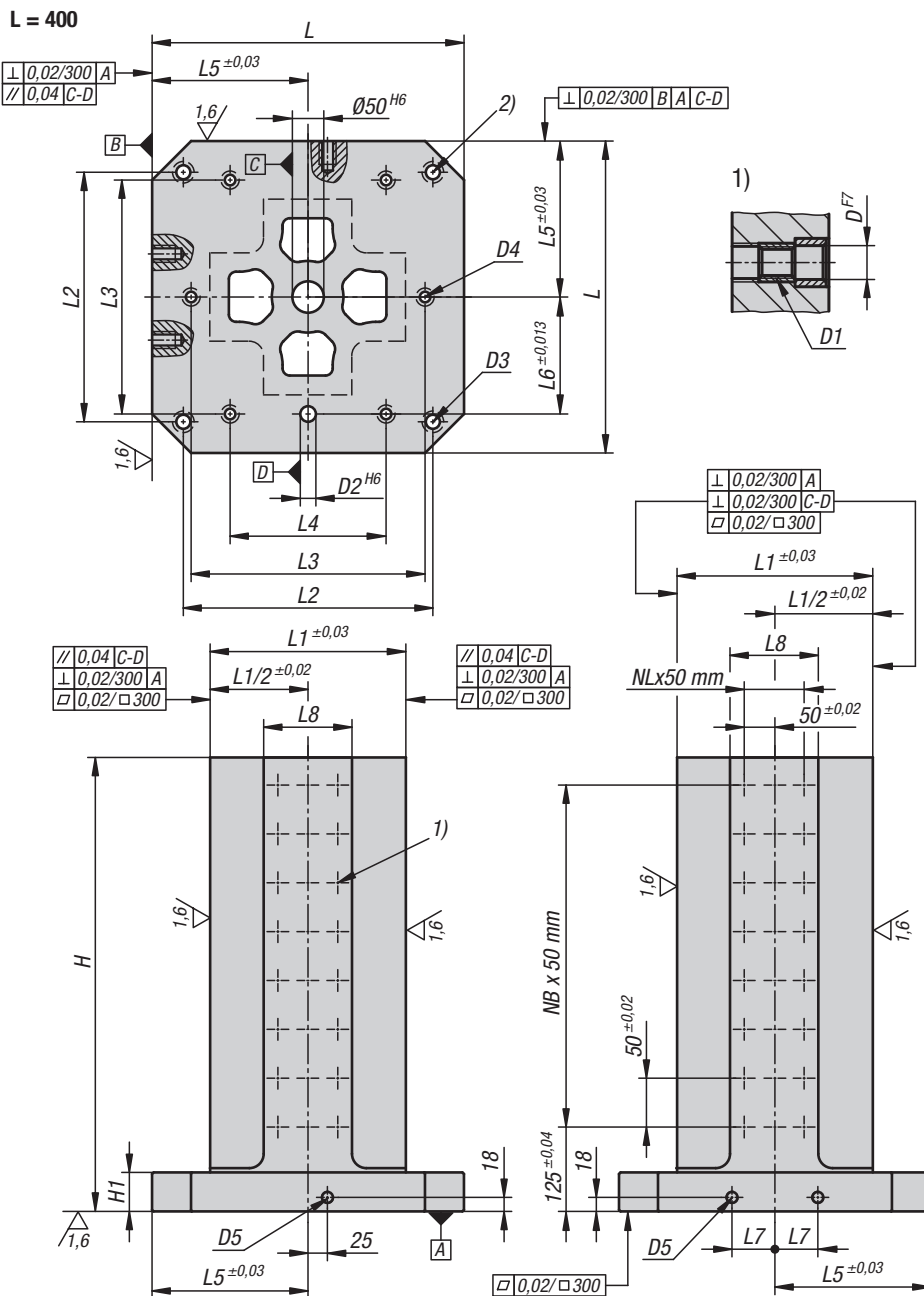
L = 800



KIPP Clamping towers, grey cast iron, 4-sided, with pre-machined clamping faces

Order No.	L	H	H1	D2	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	L8
K1533.10040050	400	500	50	20	M16	M12	M 16	251	320	300	200	200	150	55	125
K1533.10040065	400	650	50	20	M16	M12	M 16	251	320	300	200	200	150	55	125
K1533.10050060	500	600	50	20	M16	M12	M 16	301	400	200	-	250	200	75	150
K1533.10050075	500	750	50	20	M16	M12	M 16	301	400	200	-	250	200	75	150
K1533.10063070	630	700	50	25	M16	M16	M 16	351	500	400	-	315	200	100	200
K1533.10063085	630	850	50	25	M16	M16	M 16	351	500	400	-	315	200	100	200
K1533.10080080	800	800	50	25	M16	M16	M 16	501	640	600	400	400	300	135	300
K1533.10080100	800	1000	50	25	M16	M16	M 16	501	640	600	400	400	300	135	300

Clamping towers, grey cast iron, 4-sided, with grid holes



Material:
GJL 300.

Version:
Support and mounting surfaces precision machined

Sample order:
K1533.21240050

Note:
Grid spacing 50 ± 0.02 mm.
Clamping towers with grid holes are used on horizontal machining centres.
The alphanumerically labelled grid holes mean that the clamping elements can be assigned in a defined manner in the event of repeat setups.
The clamping towers conform to machine tables for machine tools acc. to DIN 55201 and JIS6337-1980.
Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately.
Please order protection plugs to plug unused grid holes separately.
Ring bolts for hoisting are supplied.
Other dimensions available on request.

On request:
other dimensions.

Drawing reference:
1) grid hole
2) hole for DIN 912 cap screw (D3/D4)

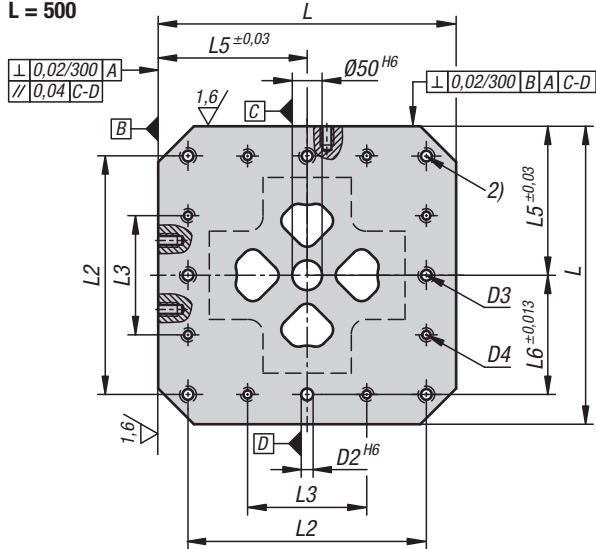
KIPP Clamping towers, grey cast iron, 4-sided, with grid holes

Order No. D=Reamed hole 12	Order No. D=Reamed hole 16	L	H	H1	D1	D2	D3	D4	D5	L1	L2
K1533.21240050	K1533.21640050	400	500	50	M12/M16	20	M16	M12	M 16	250	320
K1533.21240065	K1533.21640065	400	650	50	M12/M16	20	M16	M12	M 16	250	320
K1533.21250060	K1533.21650060	500	600	50	M12/M16	20	M16	M12	M 16	300	400
K1533.21250075	K1533.21650075	500	750	50	M12/M16	20	M16	M12	M 16	300	400
K1533.21263070	K1533.21663070	630	700	50	M12/M16	25	M16	M16	M 16	350	500
K1533.21263085	K1533.21663085	630	850	50	M12/M16	25	M16	M16	M 16	350	500
K1533.21280080	K1533.21680080	800	800	50	M12/M16	25	M16	M16	M 16	500	640
K1533.21280100	K1533.21680100	800	1000	50	M12/M16	25	M16	M16	M 16	500	640

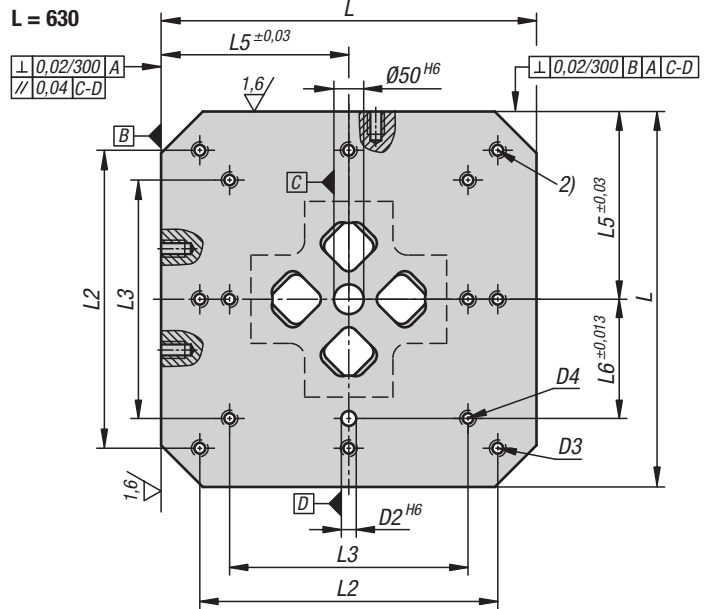
Clamping towers, grey cast iron, 4-sided, with grid holes



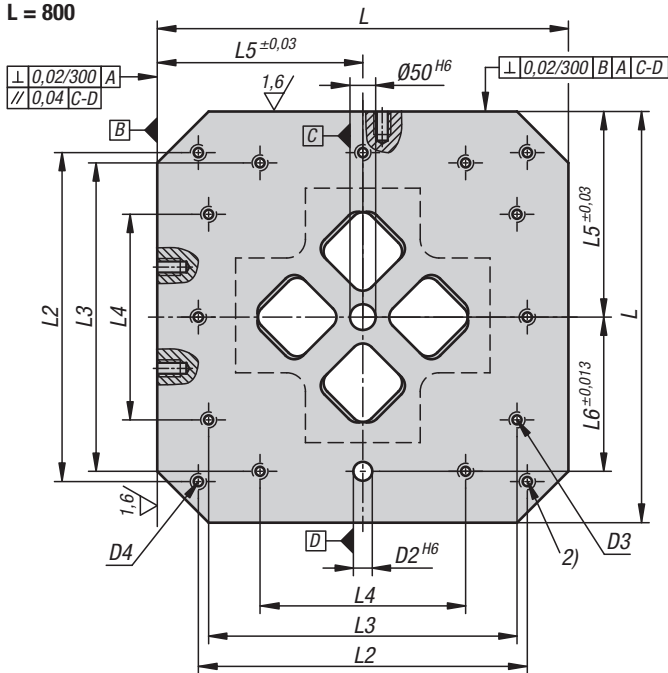
L = 500



L = 630



L = 800



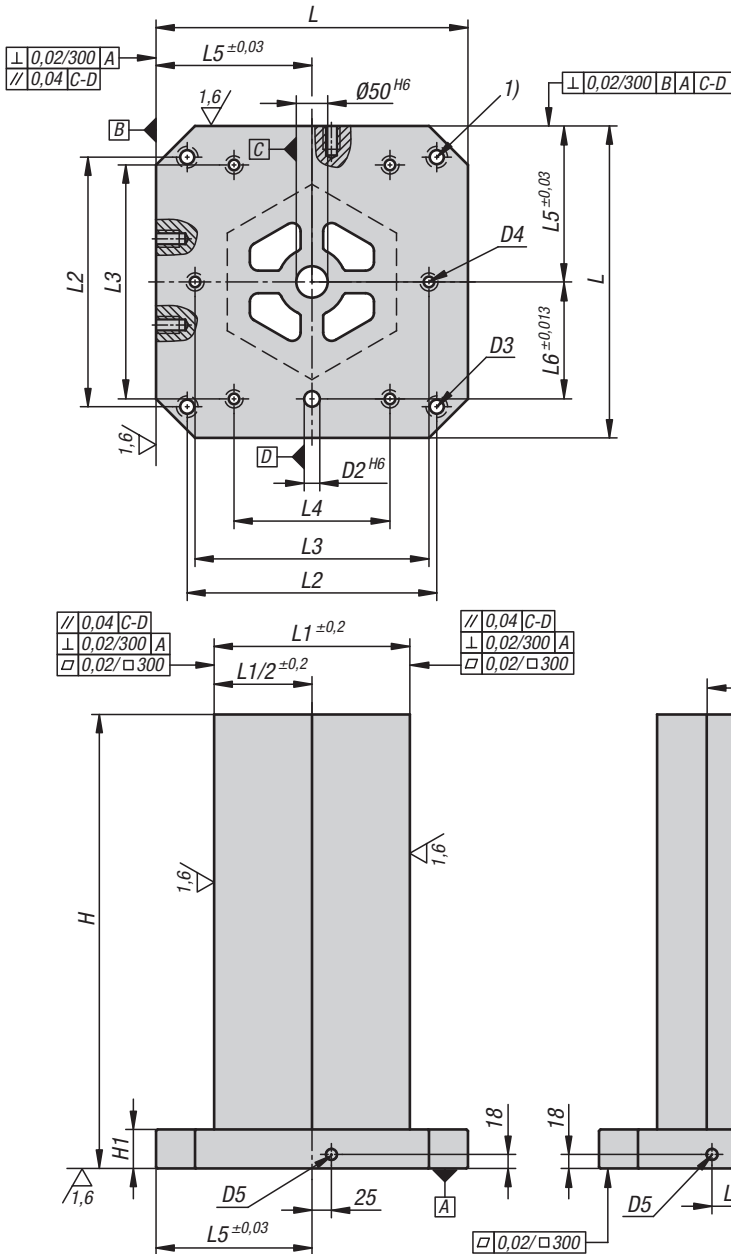
KIPP Clamping towers, grey cast iron, 4-sided, with grid holes

Order No. D=Reamed hole 12	Order No. D=Reamed hole 16	L3	L4	L5	L6	L7	L8	No. of grid holes	NL=No. lengthwise	NB=No. across
K1533.21240050	K1533.21640050	300	200	200	150	55	125	64	1	7
K1533.21240065	K1533.21640065	300	200	200	150	55	125	88	1	10
K1533.21250060	K1533.21650060	200	-	250	200	75	150	120	2	9
K1533.21250075	K1533.21650075	200	-	250	200	75	150	156	2	12
K1533.21263070	K1533.21663070	400	-	315	200	100	200	192	3	11
K1533.21263085	K1533.21663085	400	-	315	200	100	200	240	3	14
K1533.21280080	K1533.21680080	600	400	400	300	135	300	336	5	13
K1533.21280100	K1533.21680100	600	400	400	300	135	300	432	5	17

Clamping towers, grey cast iron, 6-sided, with pre-machined clamping faces



L = 400



Material:
GJL 300.

Version:
Support and clamping faces are precision-machined.
The clamping faces have a +1 mm allowance.

Sample order:
K1534.10040050

Note:
Clamping towers with pre-machined clamping faces provide a fast and economic way of producing bodies with specific grid or individual holes. The base is ready for mounting on the machine table. The clamping faces can be machined to the end dimensions by the user. The clamping towers conform to machine tables for machine tools acc. to DIN 55201 and JIS6337-1980.

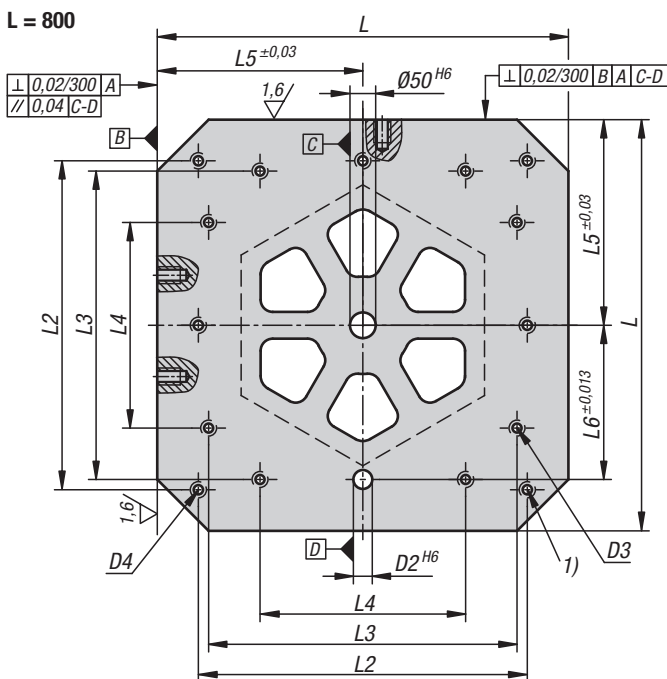
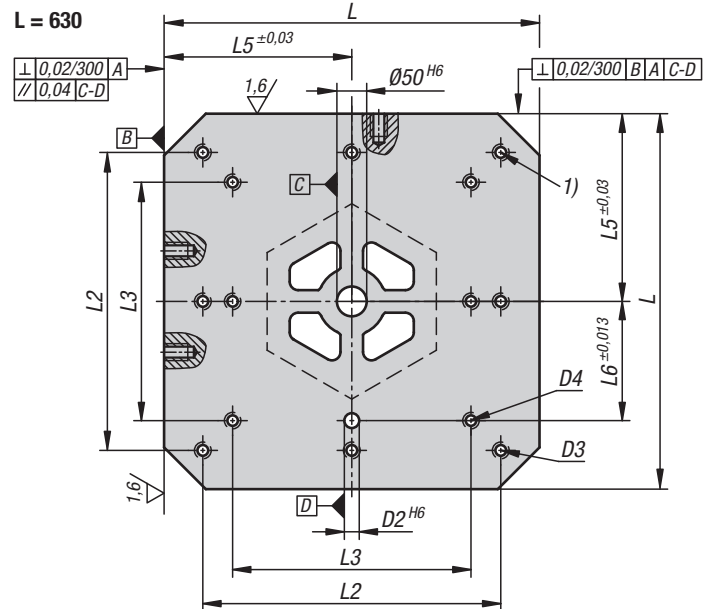
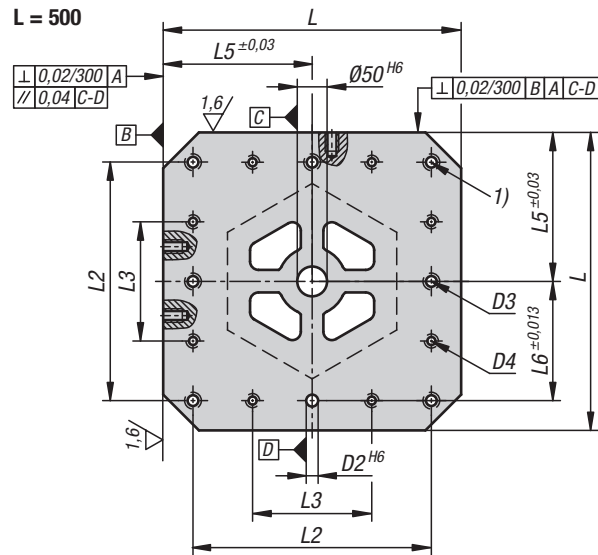
Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately.
Ring bolts for hoisting are supplied.
Other dimensions available on request.

On request:
other dimensions.

Drawing reference:
1) hole for DIN 912 cap screw (D3/D4)

Clamping towers, grey cast iron, 6-sided,

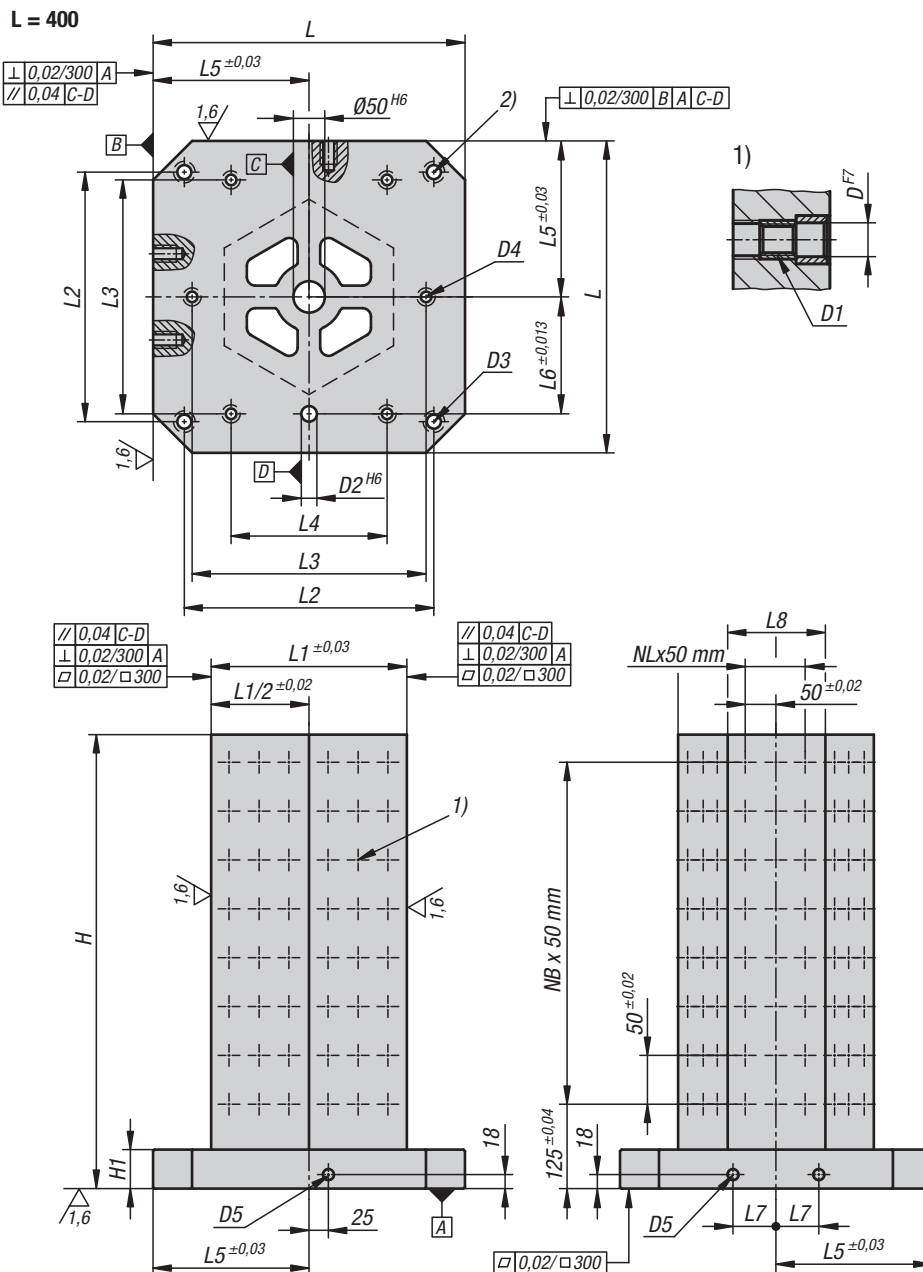
with pre-machined clamping faces



KIPP Clamping towers, grey cast iron, 6-sided, with pre-machined clamping faces

Order No.	L	H	H1	D2	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	L8
K1534.10040050	400	500	50	20	M16	M12	M 16	251	320	300	200	200	150	55	144,6
K1534.10040065	400	650	50	20	M16	M12	M 16	251	320	300	200	200	150	55	144,6
K1534.10050060	500	600	50	20	M16	M12	M 16	301	400	200	-	250	200	75	173,6
K1534.10050075	500	750	50	20	M16	M12	M 16	301	400	200	-	250	200	75	173,6
K1534.10063070	630	700	50	25	M16	M16	M 16	351	500	400	-	315	200	100	202,6
K1534.10063085	630	850	50	25	M16	M16	M 16	351	500	400	-	315	200	100	202,6
K1534.10080080	800	800	50	25	M16	M16	M 16	501	640	600	400	400	300	135	289,6
K1534.10080100	800	1000	50	25	M16	M16	M 16	501	640	600	400	400	300	135	289,6

Clamping towers, grey cast iron, 6-sided, with grid holes



Material:
GJL 300.

Version:
Support and mounting surfaces precision machined

Sample order:
K1534.21240050

Note:
Grid spacing 50 ± 0.02 mm.
Clamping towers with grid holes are used on horizontal machining centres.
The alphanumerically labelled grid holes mean that the clamping elements can be assigned in a defined manner in the event of repeat setups.
The clamping towers conform to machine tables for machine tools acc. to DIN 55201 and JIS6337-1980.
Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately.
Please order protection plugs to plug unused grid holes separately.
Ring bolts for hoisting are supplied.
Other dimensions available on request.

On request:
other dimensions.

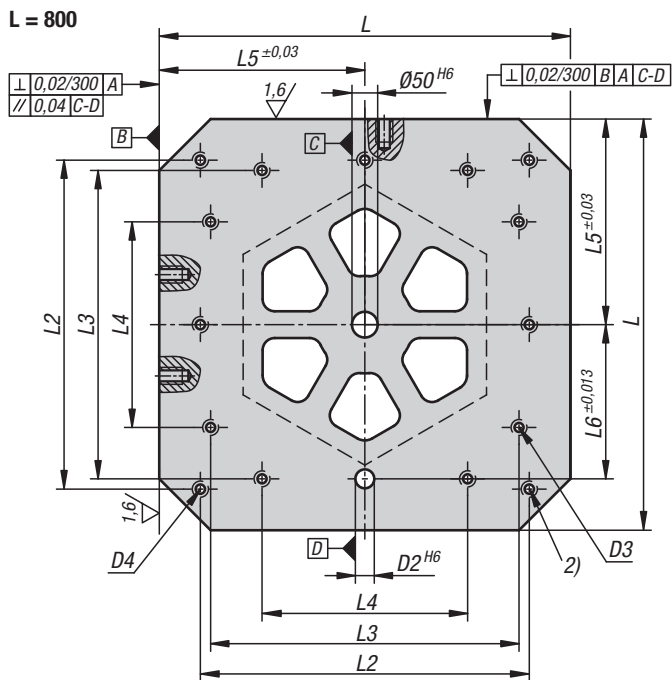
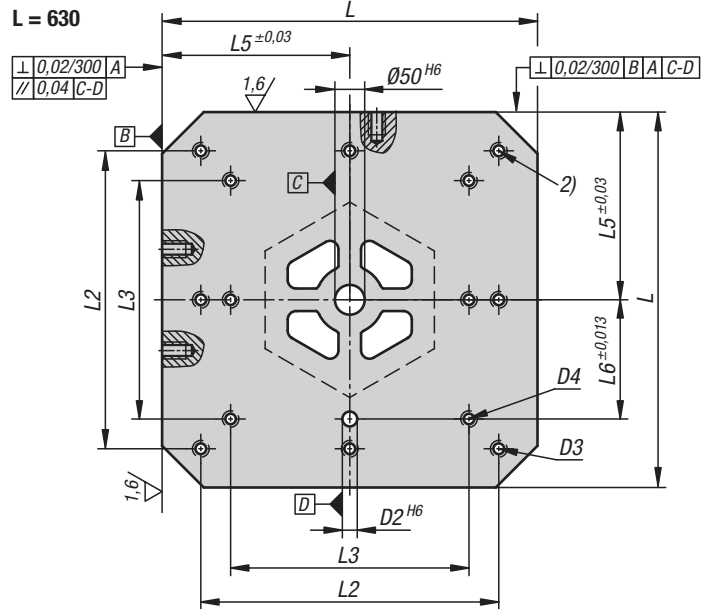
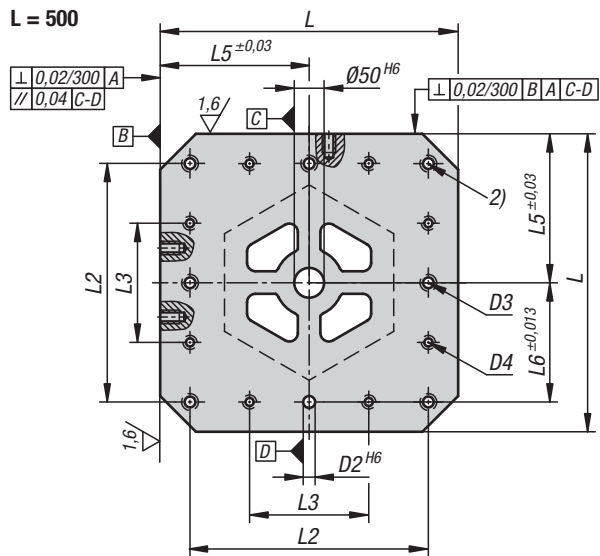
Drawing reference:
1) grid hole
2) hole for DIN 912 cap screw (D3/D4)

KIPP Clamping towers, grey cast iron, 6-sided, with grid holes

Order No. D=Reamed hole 12	Order No. D=Reamed hole 16	L	H	H1	D1	D2	D3	D4	D5	L1	L2
K1534.21240050	K1534.21640050	400	500	50	M12/M16	20	M16	M12	M 16	250	320
K1534.21240065	K1534.21640065	400	650	50	M12/M16	20	M16	M12	M 16	250	320
K1534.21250060	K1534.21650060	500	600	50	M12/M16	20	M16	M12	M 16	300	400
K1534.21250075	K1534.21650075	500	750	50	M12/M16	20	M16	M12	M 16	300	400
K1534.21263070	K1534.21663070	630	700	50	M12/M16	25	M16	M16	M 16	350	500
K1534.21263085	K1534.21663085	630	850	50	M12/M16	25	M16	M16	M 16	350	500
K1534.21280080	K1534.21680080	800	800	50	M12/M16	25	M16	M16	M 16	500	640
K1534.21280100	K1534.21680100	800	1000	50	M12/M16	25	M16	M16	M 16	500	640

Clamping towers, grey cast iron, 6-sided,

with grid holes

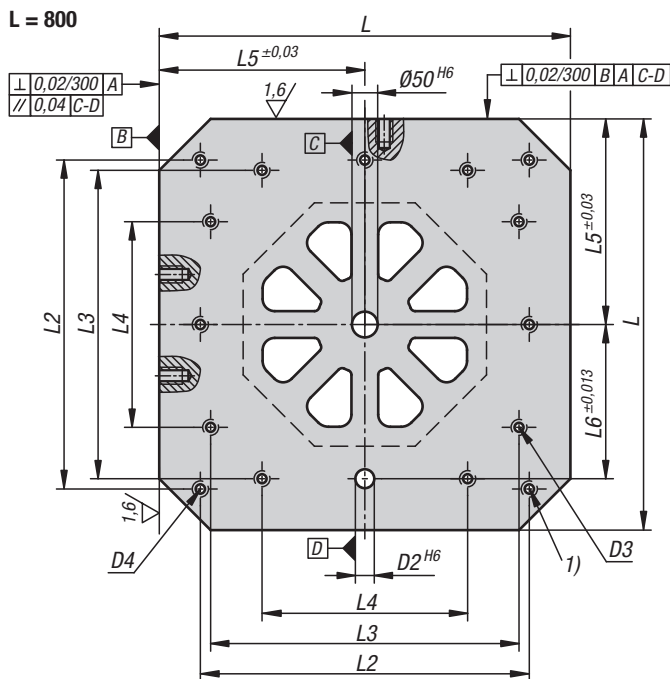
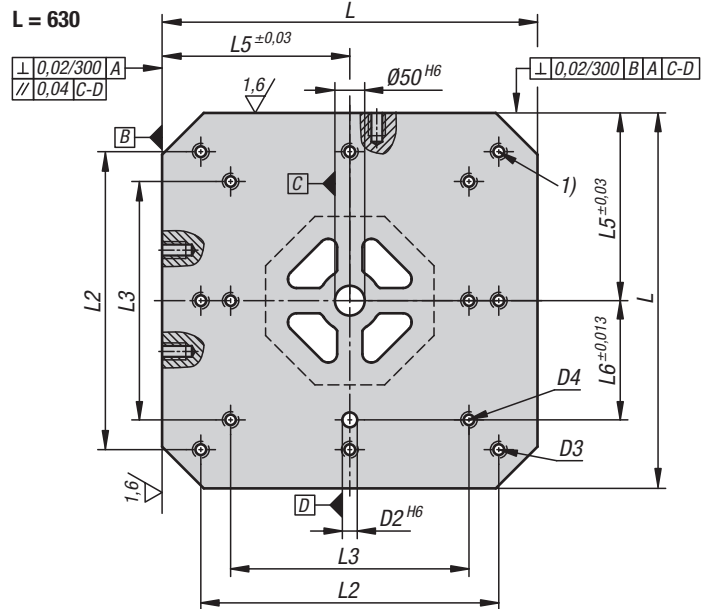
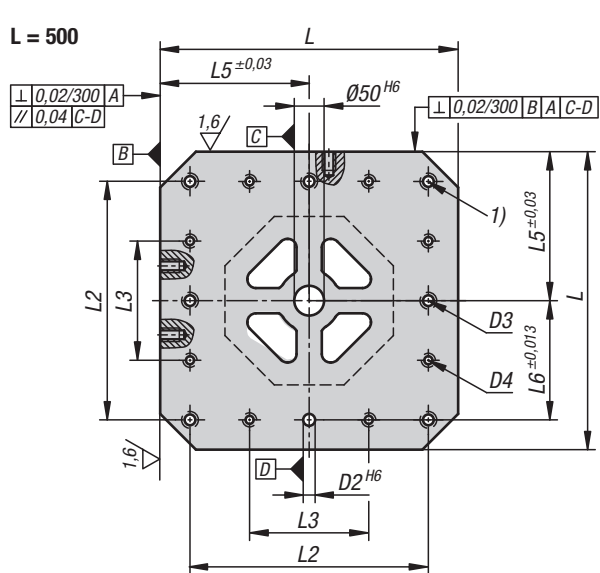


KIPP Clamping towers, grey cast iron, 6-sided, with grid holes

Order No. D=Reamed hole 12	Order No. D=Reamed hole 16	L3	L4	L5	L6	L7	L8	No. of grid holes	NL=No. lengthwise	NB=No. across
K1534.21240050	K1534.21640050	300	200	200	150	55	144	96	1	7
K1534.21240065	K1534.21640065	300	200	200	150	55	144	132	1	10
K1534.21250060	K1534.21650060	200	-	250	200	75	-	180	2	9
K1534.21250075	K1534.21650075	200	-	250	200	75	-	234	2	12
K1534.21263070	K1534.21663070	400	-	315	200	100	202	216	2	11
K1534.21263085	K1534.21663085	400	-	315	200	100	202	270	2	14
K1534.21280080	K1534.21680080	600	400	400	300	135	-	420	4	13
K1534.21280100	K1534.21680100	600	400	400	300	135	-	540	4	17

Clamping towers, grey cast iron, 8-sided,

with pre-machined clamping faces

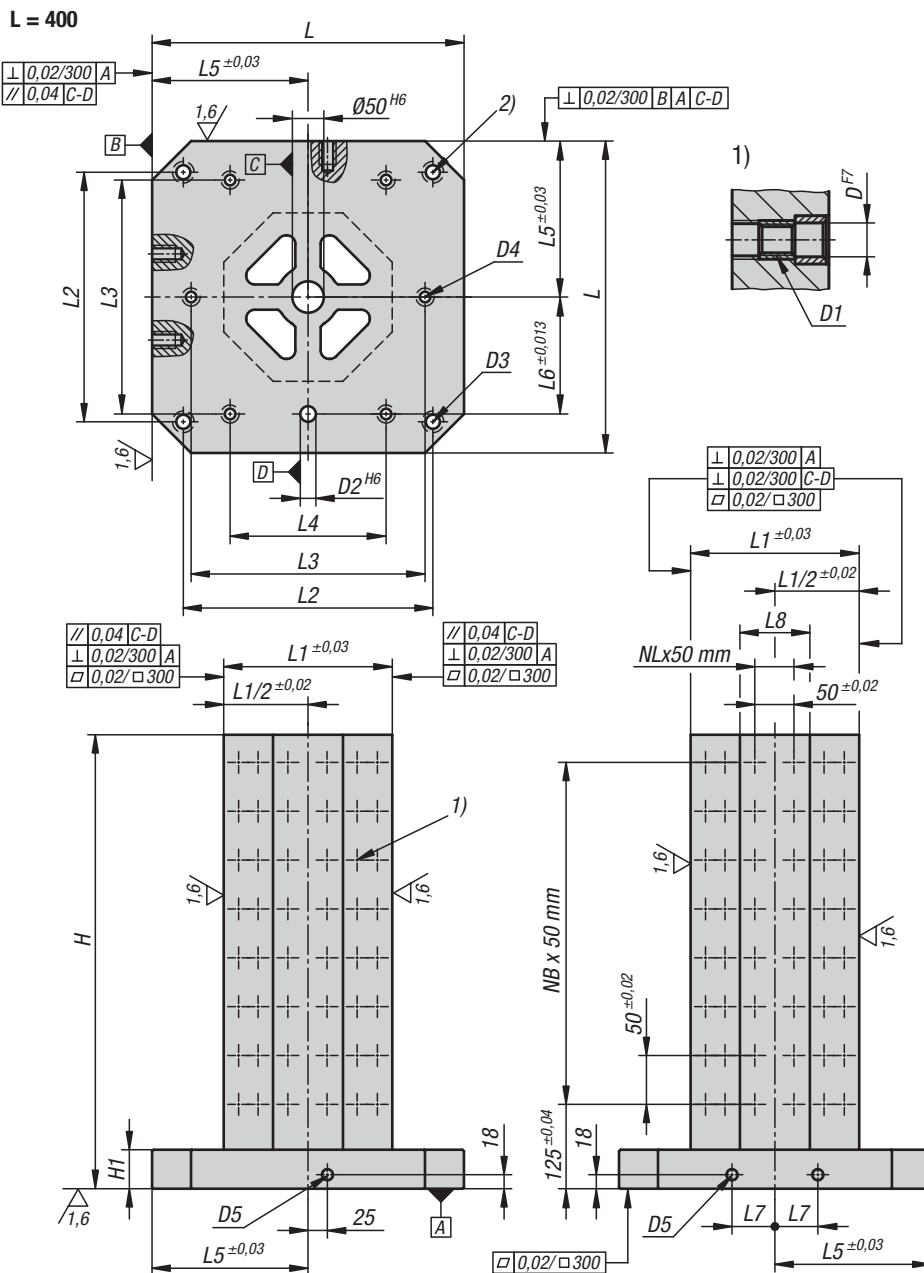
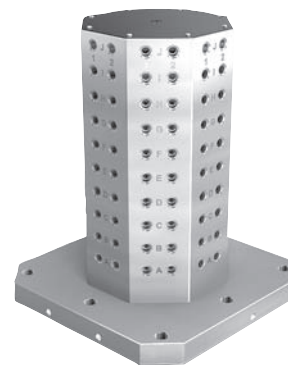


KIPP Clamping towers, grey cast iron, 8-sided, with pre-machined clamping faces

Order No.	L	H	H1	D2	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	L8
K1535.10040050	400	500	50	20	M16	M12	M 16	251	320	300	200	200	150	55	103,4
K1535.10040065	400	650	50	20	M16	M12	M 16	251	320	300	200	200	150	55	103,4
K1535.10050060	500	600	50	20	M16	M12	M 16	301	400	200	-	250	200	75	124,4
K1535.10050075	500	750	50	20	M16	M12	M 16	301	400	200	-	250	200	75	124,4
K1535.10063070	630	700	50	25	M16	M16	M 16	351	500	400	-	315	200	100	145,4
K1535.10063085	630	850	50	25	M16	M16	M 16	351	500	400	-	315	200	100	145,4
K1535.10080080	800	800	50	25	M16	M16	M 16	501	640	600	400	400	300	135	207,4
K1535.10080100	800	1000	50	25	M16	M16	M 16	501	640	600	400	400	300	135	207,4

Clamping towers, grey cast iron, 8-sided,

with grid holes



Material:
GJL 300.

Version:
Support and mounting surfaces precision machined

Sample order:
K1535.21240050

Note:
Grid spacing 50 ± 0.02 mm.
Clamping towers with grid holes are used on horizontal machining centres.
The alphanumerically labelled grid holes mean that the clamping elements can be assigned in a defined manner in the event of repeat setups.
The clamping towers conform to machine tables for machine tools acc. to DIN 55201 and JIS6337-1980.
Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately.
Please order protection plugs to plug unused grid holes separately.
Ring bolts for hoisting are supplied.
Other dimensions available on request.

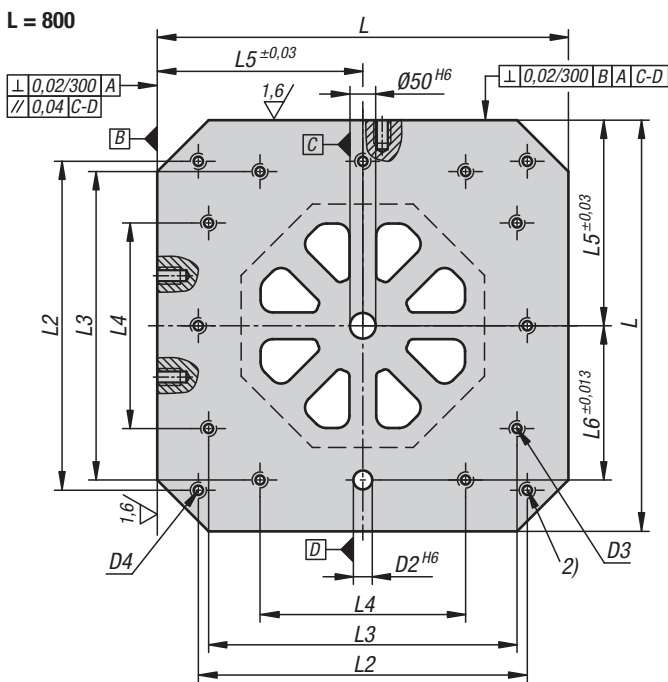
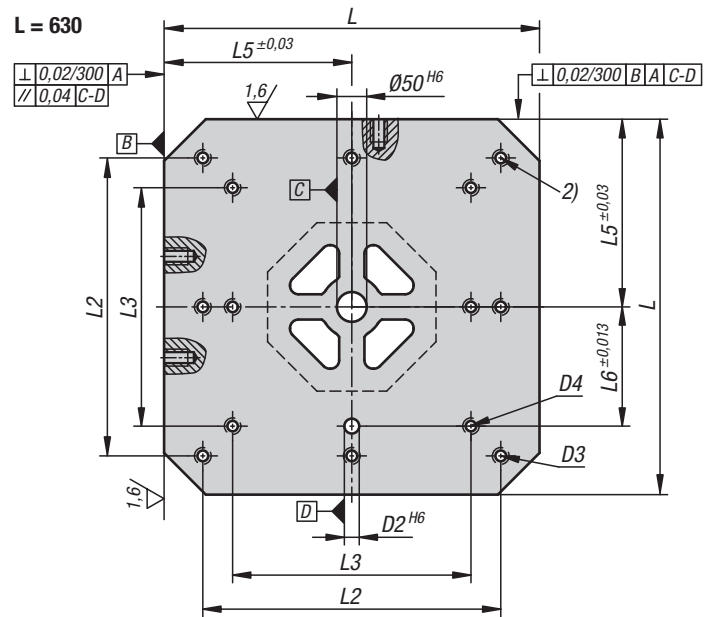
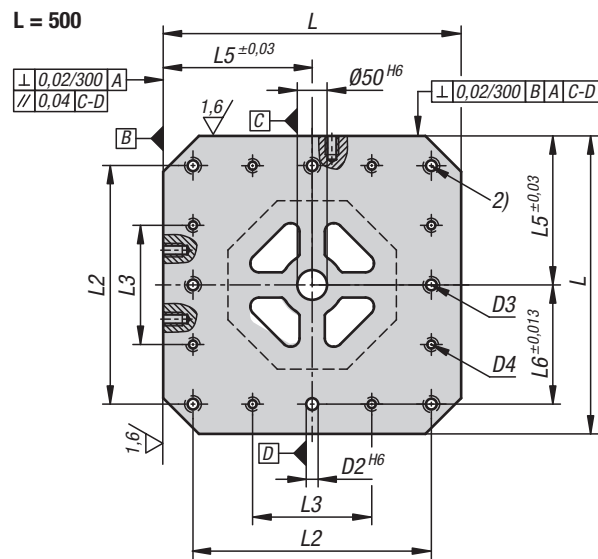
On request:
other dimensions.

Drawing reference:
1) grid hole
2) hole for DIN 912 cap screw (D3/D4)

KIPP Clamping towers, grey cast iron, 8-sided, with grid holes

Order No. D=Reamed hole 12	Order No. D=Reamed hole 16	L	H	H1	D1	D2	D3	D4	D5	L1	L2
K1535.21240050	K1535.21640050	400	500	50	M12/M16	20	M16	M12	M 16	250	320
K1535.21240065	K1535.21640065	400	650	50	M12/M16	20	M16	M12	M 16	250	320
K1535.21250060	K1535.21650060	500	600	50	M12/M16	20	M16	M12	M 16	300	400
K1535.21250075	K1535.21650075	500	750	50	M12/M16	20	M16	M12	M 16	300	400
K1535.21263070	K1535.21663070	630	700	50	M12/M16	25	M16	M16	M 16	350	500
K1535.21263085	K1535.21663085	630	850	50	M12/M16	25	M16	M16	M 16	350	500
K1535.21280080	K1535.21680080	800	800	50	M12/M16	25	M16	M16	M 16	500	640
K1535.21280100	K1535.21680100	800	1000	50	M12/M16	25	M16	M16	M 16	500	640

Clamping towers, grey cast iron, 8-sided, with grid holes

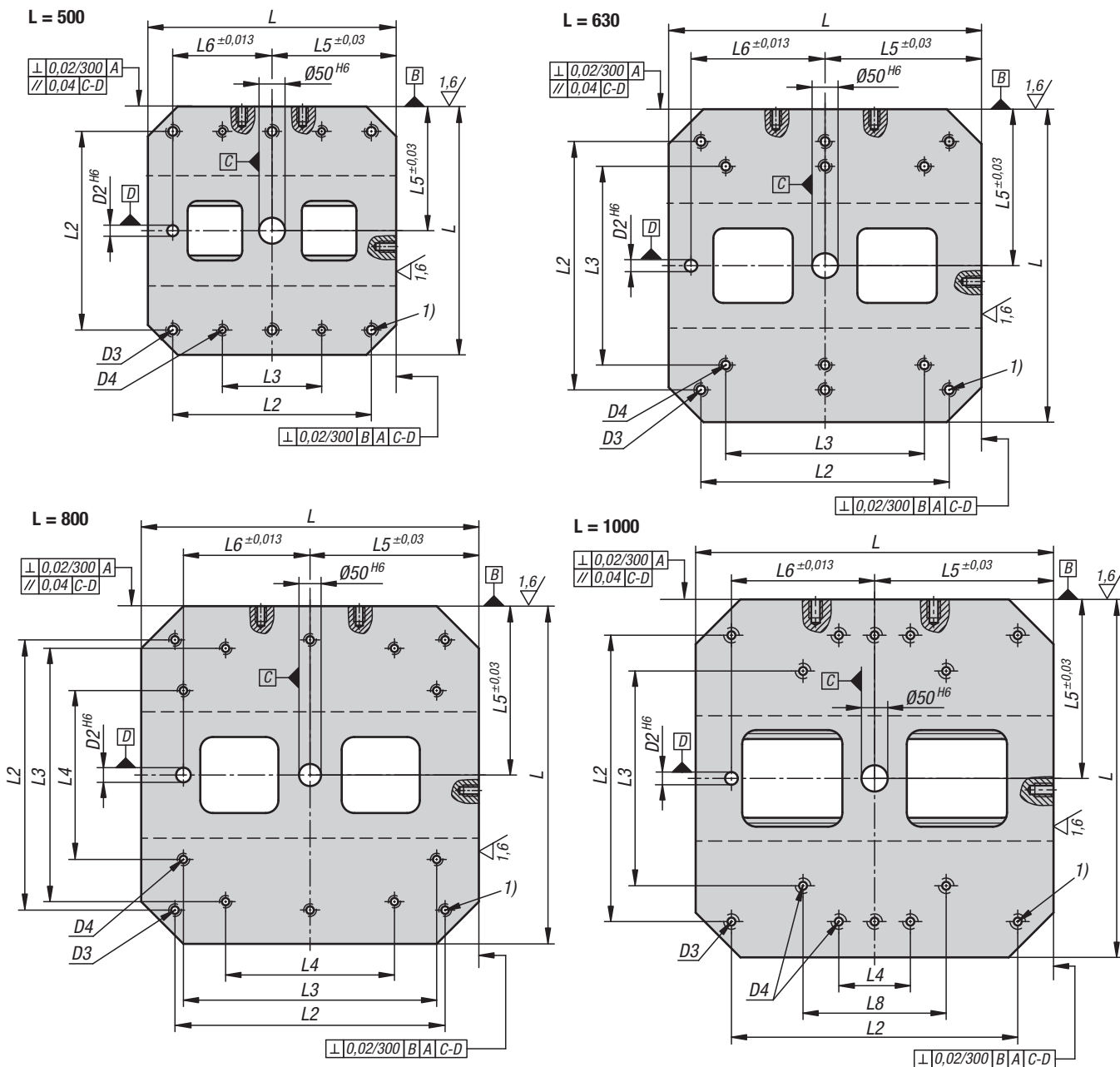


KIPP Clamping towers, grey cast iron, 8-sided, with grid holes

Order No. D=Reamed hole 12	Order No. D=Reamed hole 16	L3	L4	L5	L6	L7	L8	No. of grid holes	NL=No. lengthwise	NB=No. across
K1535.21240050	K1535.21640050	300	200	200	150	55	103	128	1	7
K1535.21240065	K1535.21640065	300	200	200	150	55	103	176	1	10
K1535.21250060	K1535.21650060	200	-	250	200	75	124	160	1	9
K1535.21250075	K1535.21650075	200	-	250	200	75	124	208	1	12
K1535.21263070	K1535.21663070	400	-	315	200	100	145	192	1	11
K1535.21263085	K1535.21663085	400	-	315	200	100	145	240	1	14
K1535.21280080	K1535.21680080	600	400	400	300	135	207	448	3	13
K1535.21280100	K1535.21680100	600	400	400	300	135	207	576	3	17

Tombstones, grey cast iron, double-sided,

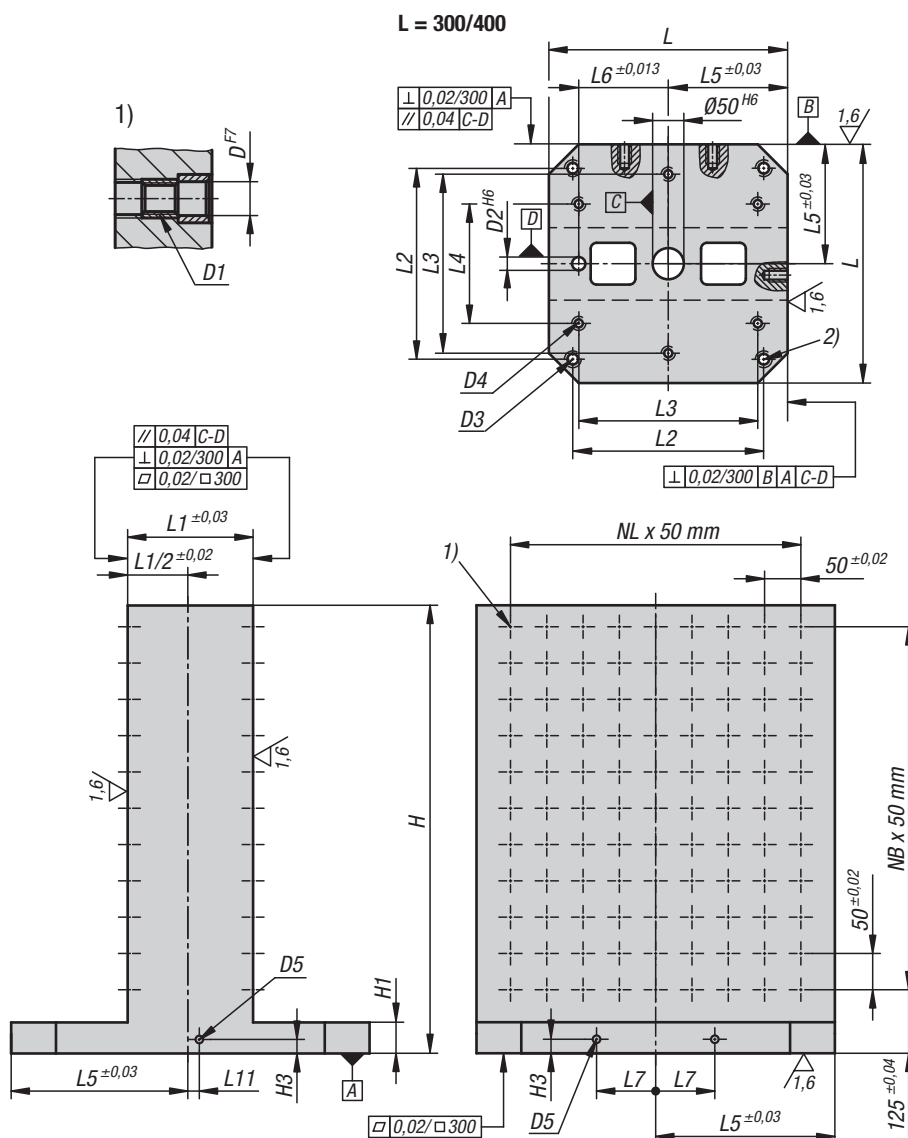
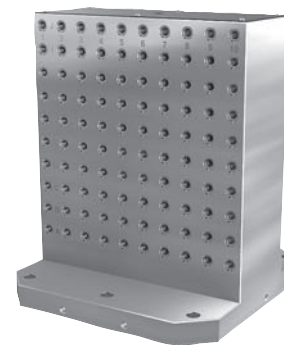
with pre-machined clamping faces



KIPP Tombstones, grey cast iron, double-sided, with pre-machined clamping faces

Order No.	L	H	H1	D2	D3	D4	D5	H3	L1	L2	L3	L4	L5	L6	L7	L8	L11
K0803.100030050	300	500	50	20	M12	M10	M12	15	81	250	200	-	150	100	40	-	0
K0803.100040050	400	500	50	20	M16	M12	M16	18	151	320	300	200	200	150	55	-	25
K0803.100040065	400	650	50	20	M16	M12	M16	18	151	320	300	200	200	150	55	-	25
K0803.100050060	500	600	50	20	M16	M12	M16	18	201	400	200	-	250	200	75	-	25
K0803.100050075	500	750	50	20	M16	M12	M16	18	201	400	200	-	250	200	75	-	25
K0803.100063070	630	700	50	25	M16	M16	M16	18	251	500	400	-	315	200	100	-	25
K0803.100063085	630	850	50	25	M16	M16	M16	18	251	500	400	-	315	200	100	-	25
K0803.100080080	800	800	50	25	M16	M16	M16	18	301	640	600	400	400	300	135	-	25
K0803.100080100	800	1000	50	25	M16	M16	M16	18	301	640	600	400	400	300	135	-	25
K0803.100100100	1000	1000	55	25	M20	M20	M16	18	351	800	600	200	500	400	165	400	25
K0803.100100125	1000	1250	55	25	M20	M20	M16	18	351	800	600	200	500	400	165	400	25

Tombstones, grey cast iron, double-sided, with grid holes



Material:

GJL 300.

Version:

Support and mounting surfaces precision machined

Sample order:

K0803.212030050

Note:

Grid spacing $50 \pm 0,02 \text{ mm}$.
Tombstones with grid holes are used on horizontal machining centres.
The alphanumerically labelled grid holes guarantee a defined assignment of clamping elements by repeat setups.
The tombstones conform to machine tables for machine tools acc. to DIN 55201 and JIS 6337-1980.
Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately.
Please order protection plugs to plug unused grid holes separately.
Ring bolts for hoisting are supplied.
Other dimensions available on request.

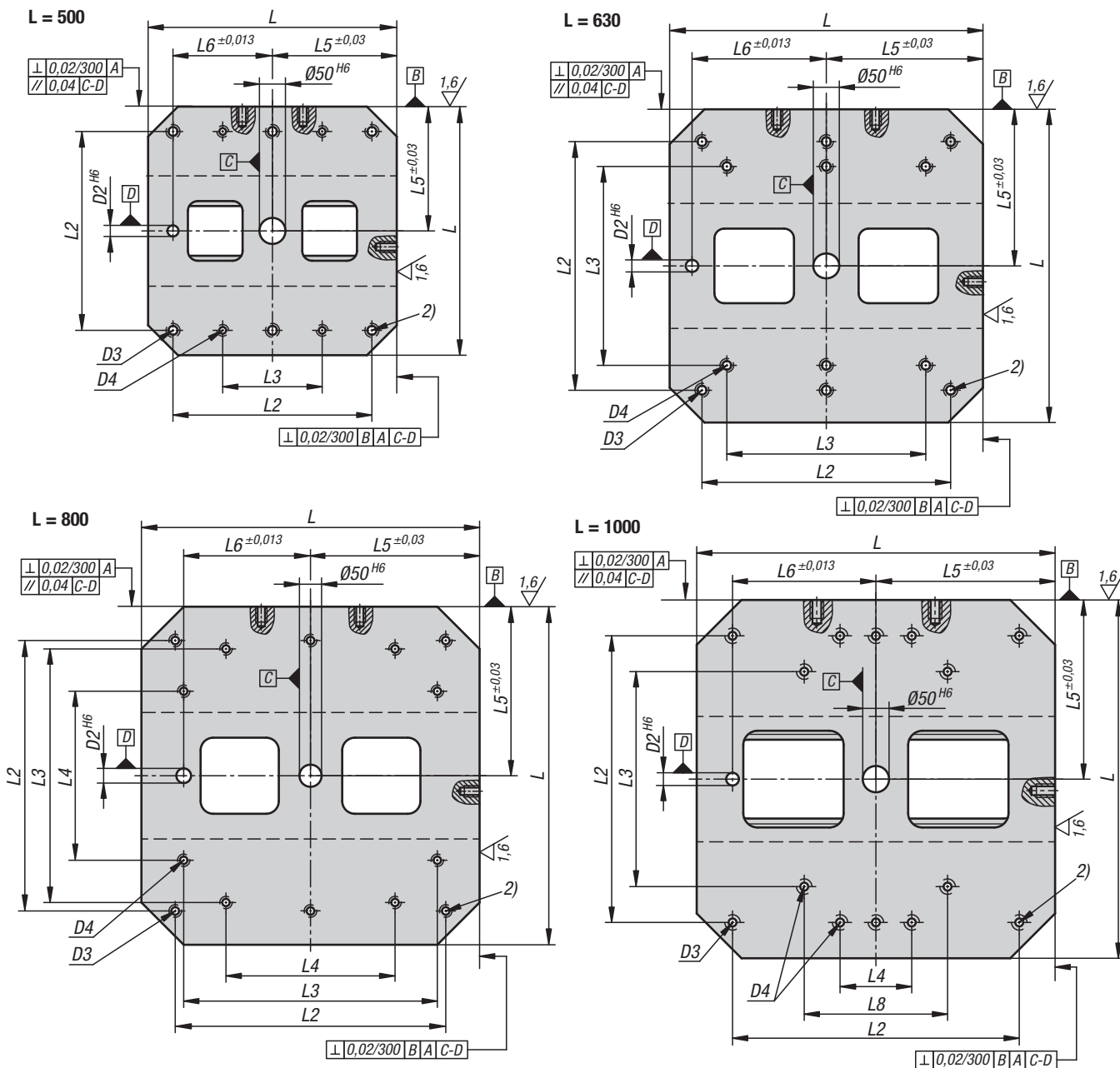
Drawing reference:

- 1) grid hole
- 2) hole for DIN 912 cap screw (D3/D4)

KIPP Tombstones, grey cast iron, double-sided, with grid holes

Order No. D=Reamed hole 12	Order No. D=Reamed hole 16	L	H	H1	D1	D2	D3	D4	D5	H3
K0803.212030050	K0803.216030050	300	500	50	M12/M16	20	M12	M10	M12	15
K0803.212040050	K0803.216040050	400	500	50	M12/M16	20	M16	M12	M16	18
K0803.212040065	K0803.216040065	400	650	50	M12/M16	20	M16	M12	M16	18
K0803.212050060	K0803.216050060	500	600	50	M12/M16	20	M16	M12	M16	18
K0803.212050075	K0803.216050075	500	750	50	M12/M16	20	M16	M12	M16	18
K0803.212063070	K0803.216063070	630	700	50	M12/M16	25	M16	M16	M16	18
K0803.212063085	K0803.216063085	630	850	50	M12/M16	25	M16	M16	M16	18
K0803.212080080	K0803.216080080	800	800	50	M12/M16	25	M16	M16	M16	18
K0803.212080100	K0803.216080100	800	1000	50	M12/M16	25	M16	M16	M16	18
K0803.212100100	K0803.216100100	1000	1000	55	M12/M16	25	M20	M20	M16	18
K0803.212100125	K0803.216100125	1000	1250	55	M12/M16	25	M20	M20	M16	18

Tombstones, grey cast iron, double-sided, with grid holes

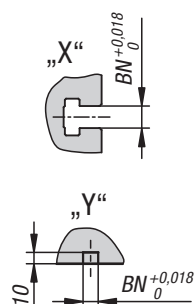


KIPP Tombstones, grey cast iron, double-sided, with grid holes

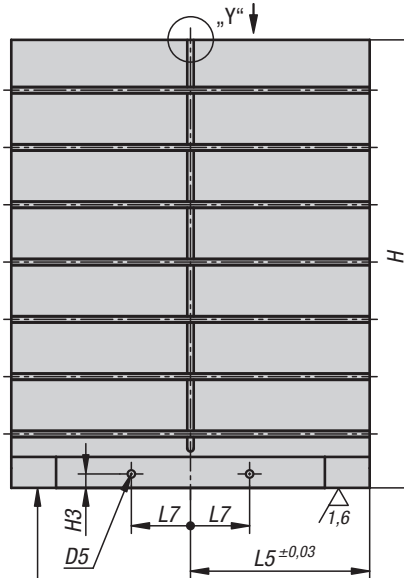
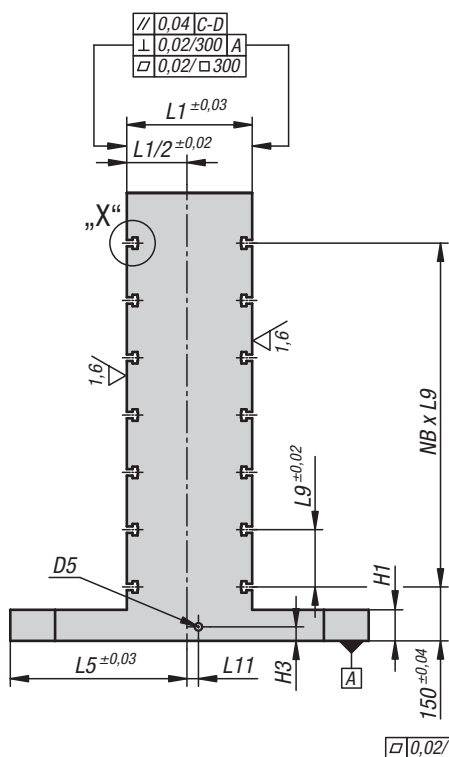
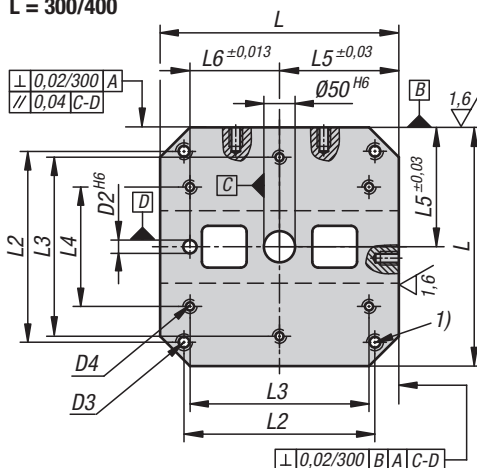
Order No. D=Reamed hole 12	Order No. D=Reamed hole 16	L2	L3	L4	L5	L6	L7	L8	L11	No. of grid holes	NL=No. lengthwise	NB=No. across
K0803.212030050	K0803.216030050	250	200	-	150	100	40	-	0	96	5	7
K0803.212040050	K0803.216040050	320	300	200	200	150	55	-	25	128	7	7
K0803.212040065	K0803.216040065	320	300	200	200	150	55	-	25	176	7	10
K0803.212050060	K0803.216050060	400	200	-	250	200	75	-	25	200	9	9
K0803.212050075	K0803.216050075	400	200	-	250	200	75	-	25	260	9	12
K0803.212063070	K0803.216063070	500	400	-	315	200	100	-	25	288	11	11
K0803.212063085	K0803.216063085	500	400	-	315	200	100	-	25	360	11	14
K0803.212080080	K0803.216080080	640	600	400	400	300	135	-	25	420	14	13
K0803.212080100	K0803.216080100	640	600	400	400	300	135	-	25	540	14	17
K0803.212100100	K0803.216100100	800	600	200	500	400	165	400	25	684	18	17
K0803.212100125	K0803.216100125	800	600	200	500	400	165	400	25	874	18	22

Tombstones, grey cast iron, double-sided,

with T-slots



L = 300/400



Material:
GJL 300.

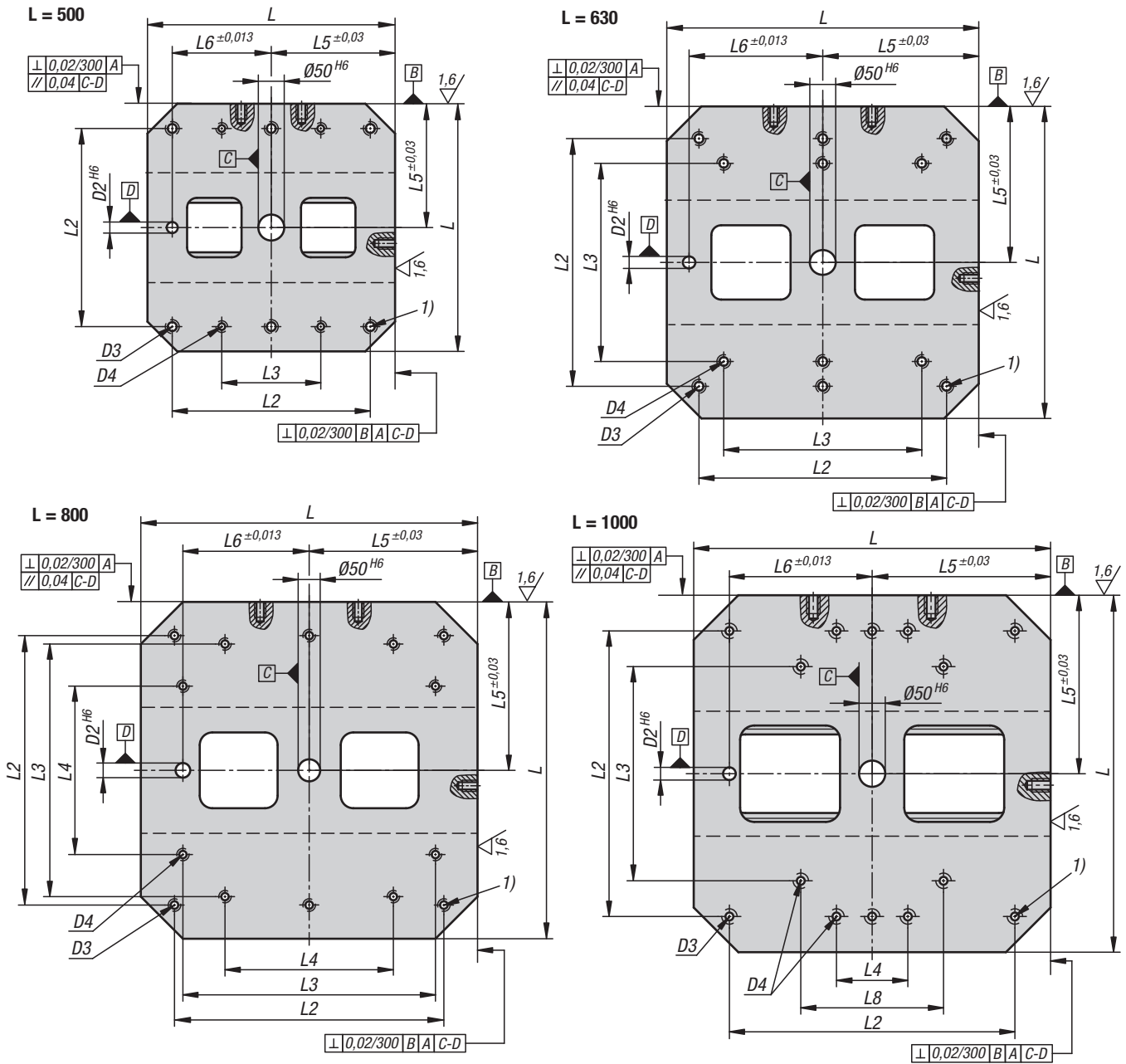
Version:
Support and mounting surfaces precision machined

Sample order:
K0803.314040050

Note:
Tombstones with T-slots are used for constructing modular fixtures on horizontal machines. The precise longitudinal and transverse slot spacing ensures very high repeat clamping accuracy. The tombstones conform to machine tables for machine tools acc. to DIN 55201 and JIS 6337-1980. Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately. Ring bolts for hoisting are supplied. Other dimensions available on request.

Drawing reference:
1) hole for DIN 912 cap screw (D3/D4)

Tombstones, grey cast iron, double-sided, with T-slots

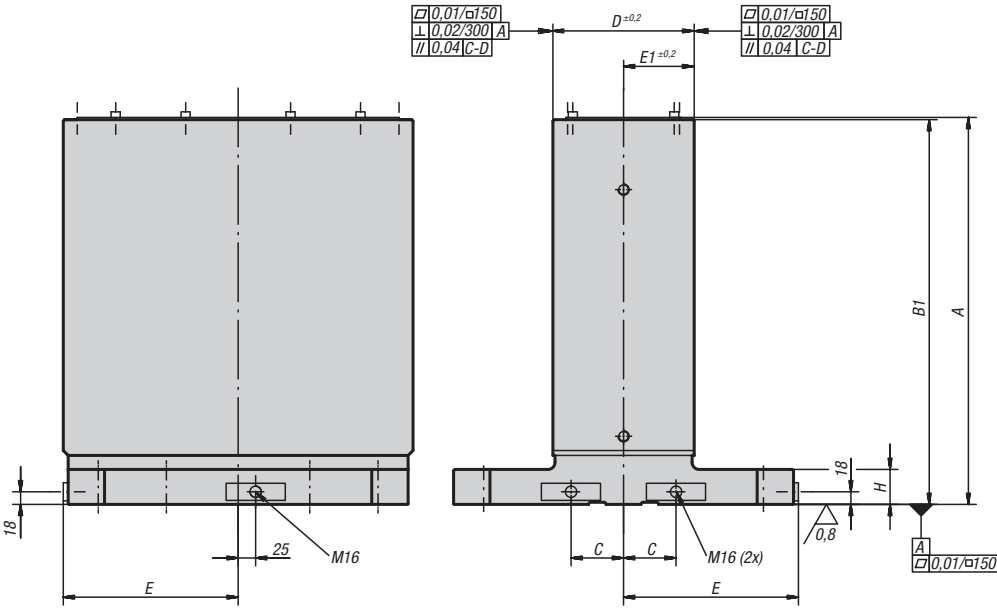


KIPP Tombstones, grey cast iron, double-sided, with T-slots

Order No. BN=slot width 14	Order No. BN=slot width 18	L	H	H1	D2	D3	D4	D5	H3	L1	L2	L3	L4	L5	L6	L7	L8	L9	L11	NB=No. across
K0803.314040050	K0803.318040050	400	500	50	20	M16	M12	M16	18	150	320	300	200	200	150	55	-	100	25	3
K0803.314040065	K0803.318040065	400	650	50	20	M16	M12	M16	18	150	320	300	200	200	150	55	-	100	25	4
K0803.314050060	K0803.318050060	500	600	50	20	M16	M12	M16	18	200	400	200	-	250	200	75	-	100	25	4
K0803.314050075	K0803.318050075	500	750	50	20	M16	M12	M16	18	200	400	200	-	250	200	75	-	100	25	5
K0803.314063070	K0803.318063070	630	700	50	25	M16	M16	M16	18	250	500	400	-	315	200	100	-	125	25	4
K0803.314063085	K0803.318063085	630	850	50	25	M16	M16	M16	18	250	500	400	-	315	200	100	-	125	25	5
K0803.314080080	K0803.318080080	800	800	50	25	M16	M16	M16	18	300	640	600	400	400	300	135	-	150	25	4
K0803.314080100	K0803.318080100	800	1000	50	25	M16	M16	M16	18	300	640	600	400	400	300	135	-	150	25	5
K0803.314100100	K0803.318100100	1000	1000	55	25	M20	M20	M16	18	350	800	600	200	500	400	165	400	160	25	5
K0803.314100125	K0803.318100125	1000	1250	55	25	M20	M20	M16	18	350	800	600	200	500	400	165	400	160	25	6

Tombstones double-sided

without grid holes



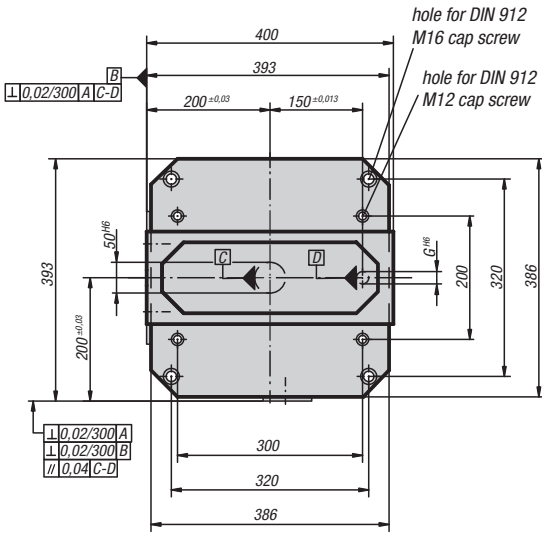
Material:
GJL 300.

Version:
Reference surfaces precision machined.
The clamping surfaces have 0.5 mm allowance.

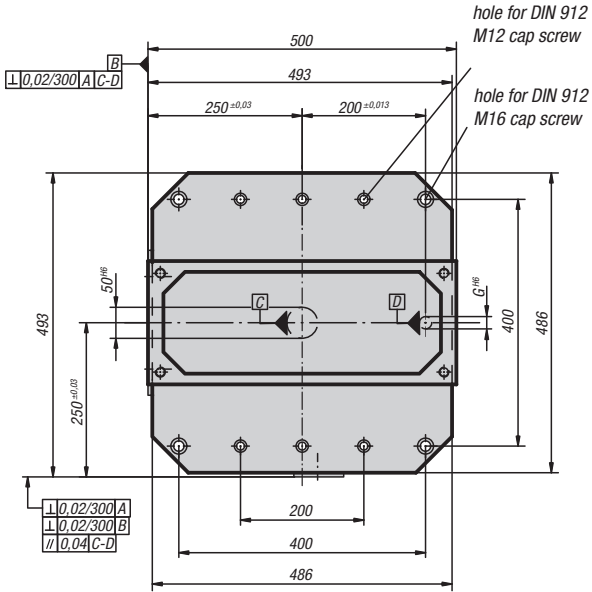
Sample order:
K0803.0040151

Note:
The double-sided tombstones are matched to subplates for machine tools acc. to DIN 55201 and JIS 6337-1980.
Ring bolts for lifting are supplied. A cover prevents the cavity of the tombstone filling up with swarf.

K0803.0040151



K0803.005020
K0803.0050201

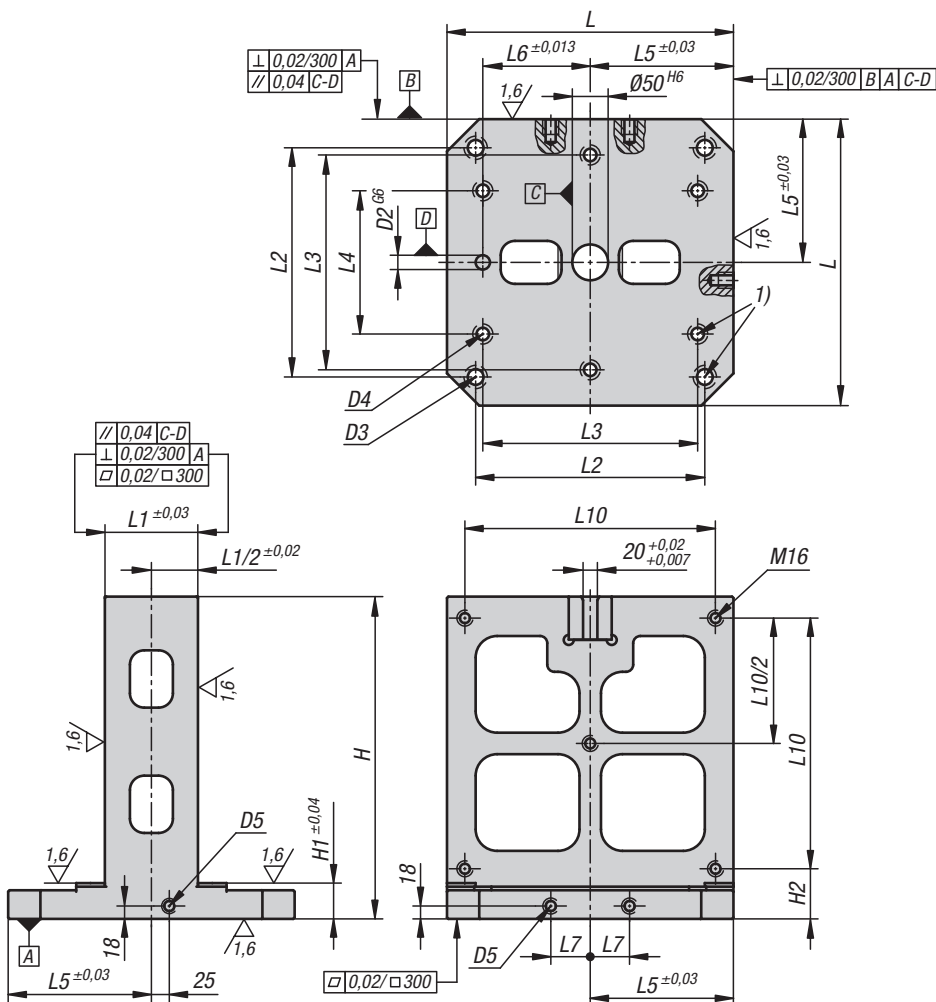


KIPP Tombstones double-sided without grid holes

Order No.	A	B1	C	D	E	E1	G	H	weight ca. kg
K0803.0040151	553	550	55	151±0,2	200	75,5 ±0,2	20	50	202
K0803.0050201	653	650	75	201±0,2	250	101,5 ±0,2	20	50	317

Tombstone, grey cast iron, double-sided,

for interchangeable subplates



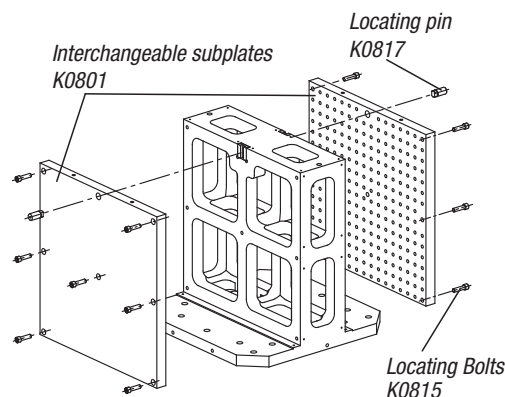
Material:
GJL 300.

Version:
Support and mounting surfaces precision machined

Sample order:
K0804.14045

Note:
Interchangeable subplates can be positioned and mounted on both sides of the tombstone. This means that clamping fixtures can be replaced efficiently. The tombstones conform to machine tables for machine tools acc. to DIN 55201 and JIS6337-1980. Please order locating pins for positioning subplates on machine tables acc. to DIN 55201 separately. Ring bolts for hoisting are supplied, as well as 2 positioning pins for positioning the interchangeable subplates.

Drawing reference:
1) hole for DIN 912 cap screw

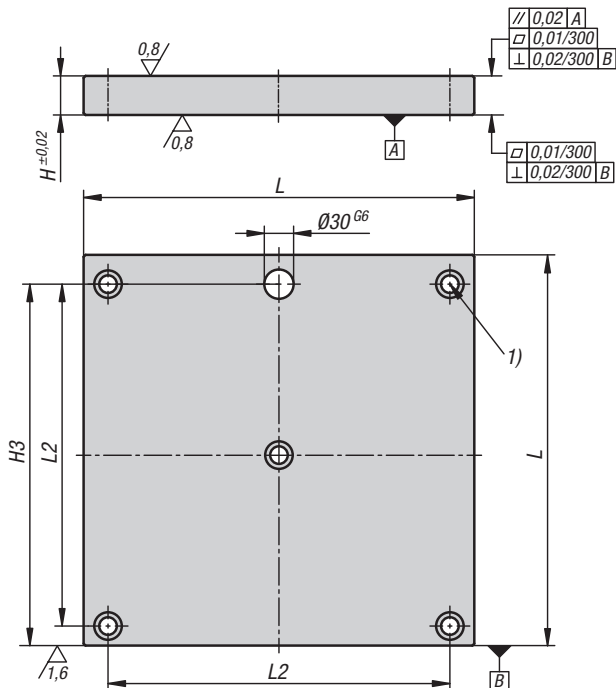
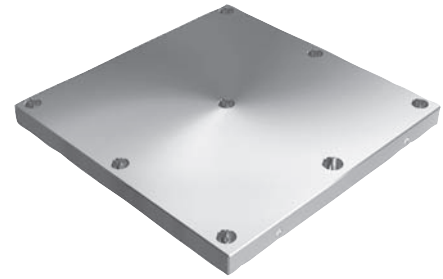


KIPP Tombstone, grey cast iron, double-sided, for interchangeable subplates

Order No.	L	L1	H	D2	D3	D4	D5	H1	H2	L2	L3	L4	L5	L6	L7	L10
K0804.14045	400	130	450	20	M16	M12	M 16	50	70	320	300	200	200	150	55	350
K0804.15055	500	150	550	20	M16	M12	M 16	55	75	400	200	-	250	200	75	450
K0804.16369	630	220	690	25	M16	M16	M 16	60	80	500	400	-	315	200	100	580
K0804.18086	800	250	860	25	M16	M16	M 16	60	80	640	600	400	400	300	135	750

Interchangeable subplates, grey cast iron,

with pre-machined clamping faces



Material:

GJL 300.

Version:

Support and mounting surfaces ground

Sample order:

K0801.1004040

Note:

Interchangeable subplates with pre-machine clamping faces are used double-sided, together with the tombstones. The interchangeable subplates are positioned and mounted on both sides of the tombstone. This means that clamping fixtures can be replaced efficiently. The interchangeable subplates can be machined accordingly by the customer.

Drawing reference:

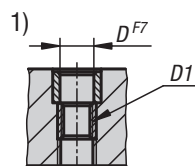
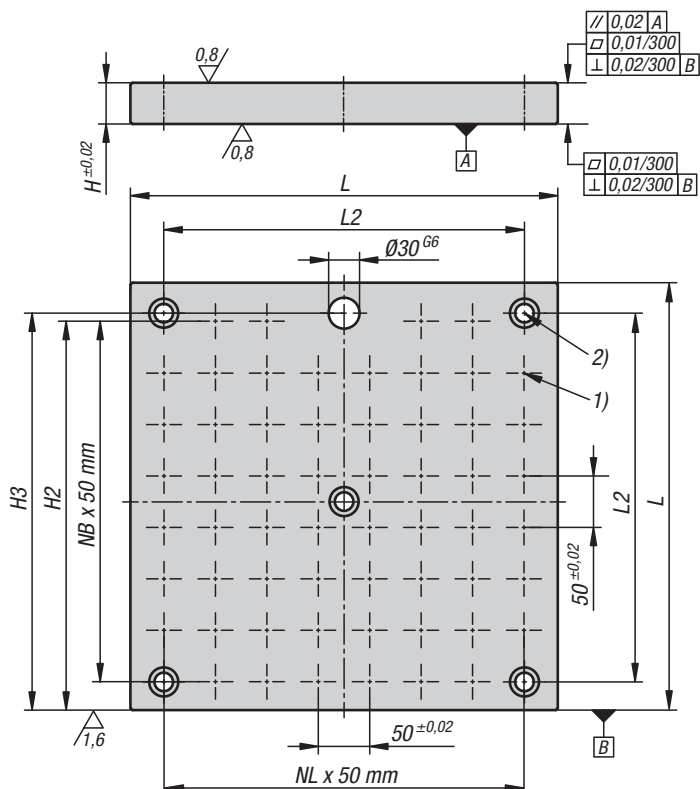
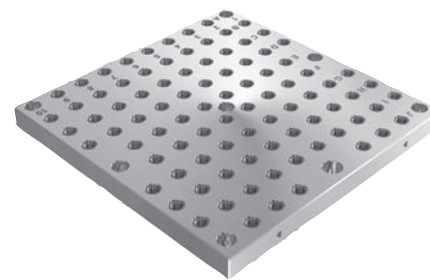
1) hole for DIN 912 cap screw, M16

KIPP Interchangeable subplates, grey cast iron, with pre-machined clamping faces

Order No.	L	H	H3	L2	No. of fastening holes
K0801.1004040	400	40	370	350	5
K0801.1005050	500	40	470	450	7
K0801.1006363	630	40	600	580	7
K0801.1008080	800	50	770	750	7

Interchangeable subplates, grey cast iron,

with grid holes



Material:

GJL 300.

Version:

Mounting surfaces ground

Sample order:

K0801.2124040

Note:

Interchangeable subplates with grid holes are used double-sided, together with the tombstones. The interchangeable subplates are positioned and mounted on both sides of the tombstone. This means that clamping fixtures can be replaced efficiently.

The alphanumerically labelled grid holes mean that the clamping elements can be assigned in a defined manner in the event of repeat setups.

Please order protection plugs to plug unused grid holes separately.

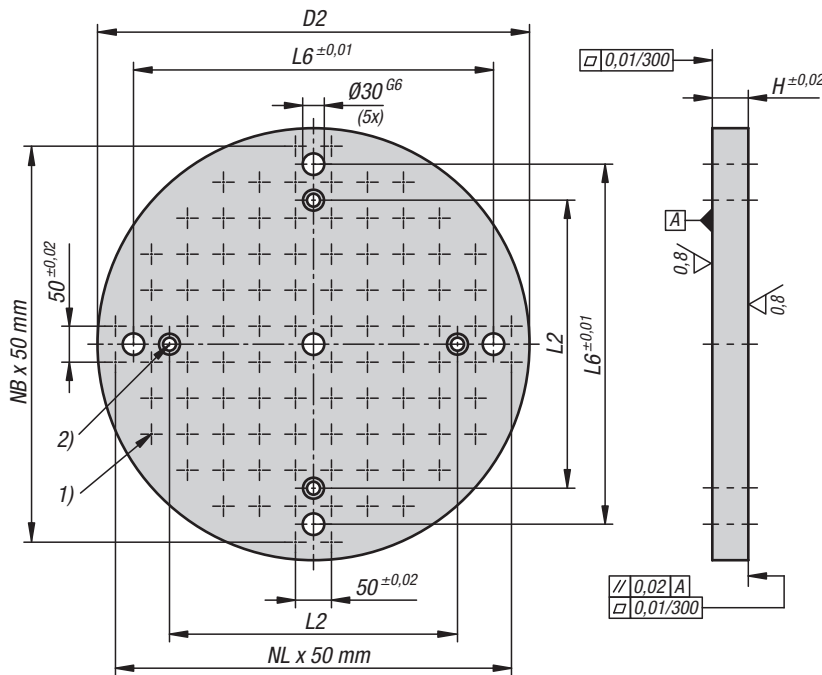
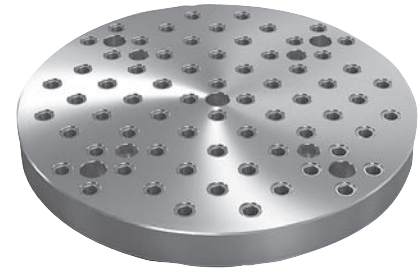
Drawing reference:

- 1) grid hole
- 2) hole for DIN 912 cap screw, M16

KIPP Interchangeable subplates, grey cast iron, with grid holes

Order No.	L	H	D	D1	H2	H3	L2	N1=No. of grid holes	NL=No. lengthwise	NB=No. across	No. of fastening holes
K0801.2124040	400	40	12	M12	370	370	350	58	7	7	5
K0801.2125050	500	40	12	M12	470	470	450	94	9	9	7
K0801.2126363	630	40	12	M12	585	600	580	138	11	11	7
K0801.2128080	800	50	12	M12	770	770	750	250	15	15	7
K0801.2164040	400	40	16	M16	370	370	350	58	7	7	5
K0801.2165050	500	40	16	M16	470	470	450	90	9	9	7
K0801.2166363	630	40	16	M16	585	600	580	138	11	11	7
K0801.2168080	800	50	16	M16	770	770	750	246	15	15	7

Baseplates, grey cast iron, round, with grid holes



Material:
GJL 300.

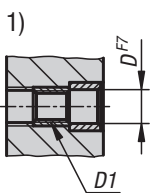
Version:
Support and mounting surfaces ground

Sample order:
K1532.21230050

Note:
Grid spacing $50 \pm 0,02$ mm.
Round baseplates with grid holes are used for setting up modular fixtures. These baseplates are positioned and mounted directly on machine tables. The aligning holes are used to align the baseplate on the machine table. Please order locating pins to locate the baseplates separately. Please order protection plugs to plug unused grid holes separately. Ring bolts for hoisting are supplied. Other dimensions available on request.

On request:
other dimensions.

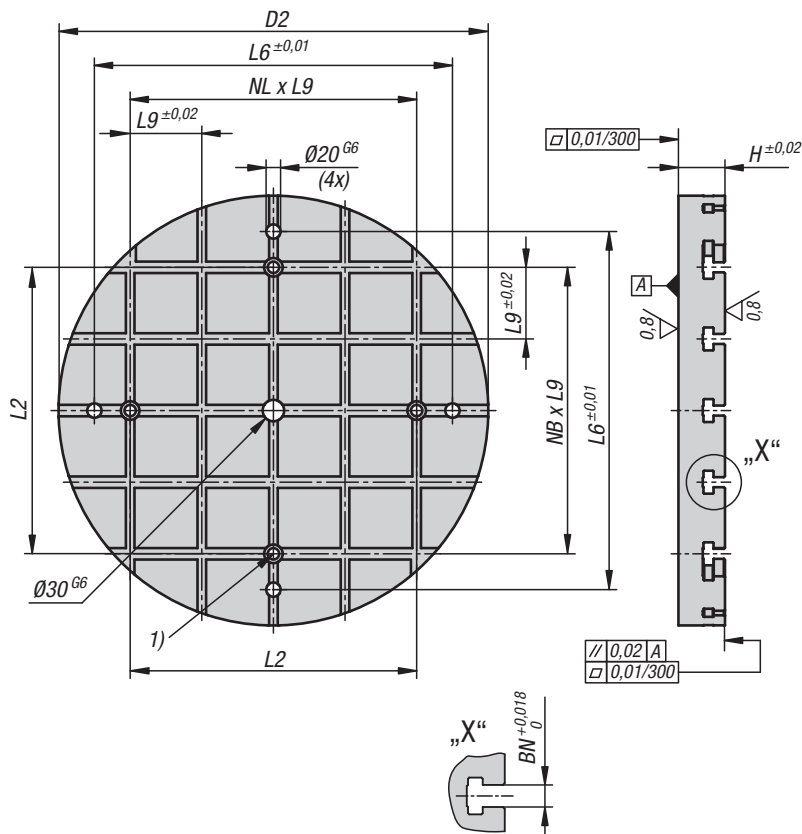
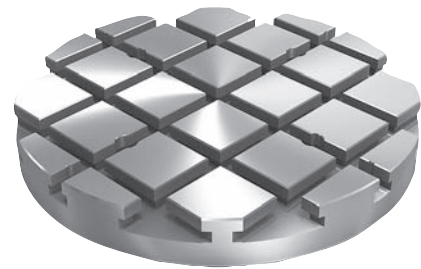
Drawing reference:
1) grid hole
2) hole for DIN 912 cap screw (D4)



KIPP Baseplates, grey cast iron, round, with grid holes

Order No.	D2	H	D	D1	D4	L2	L6	N1=No. of grid holes	NL=No. lengthwise	NB=No. across
K1532.21230050	300	50	12	M12	M12	150	220	24	5	5
K1532.21240050	400	50	12	M12	M12	250	320	44	7	7
K1532.21250050	500	50	12	M12	M16	300	400	68	9	9
K1532.21260050	600	50	12	M12	M16	400	500	96	11	11
K1532.21650050	500	50	16	M16	M16	300	400	68	9	9
K1532.21660050	600	50	16	M16	M16	400	500	96	11	11

Baseplates, grey cast iron, round, with T-slots



Material:
GJL 300.

Version:
Support and mounting surfaces ground

Sample order:
K1532.31430050

Note:
Round baseplates with T-slots are used for constructing modular fixtures. These baseplates are positioned and mounted directly on machine tables. The precise longitudinal and transverse slot spacing ensures very high repeat clamping accuracy. The aligning holes are used to align the baseplate on the machine table. Please order locating pins to locate the baseplates separately. Ring bolts with T-nuts for hoisting are supplied. Other dimensions available on request.

On request:
other dimensions.

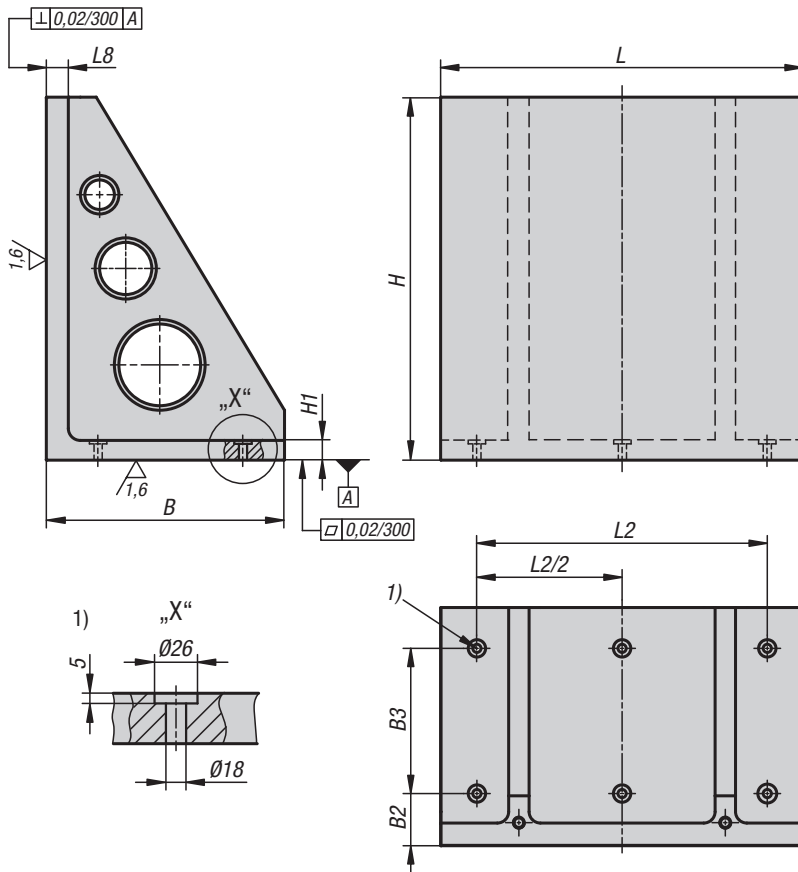
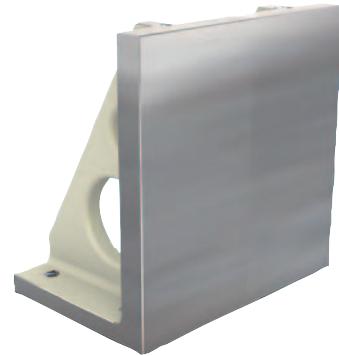
Drawing reference:
1) hole for DIN 912 cap screw (D4)

KIPP Baseplates, grey cast iron, round, with T-slots

Order No.	D2	H	D4	L2	L6	L9	BN=slot width	NL=No. lengthwise	NB=No. across
K1532.31430050	300	50	M12	150	250	75	14	2	2
K1532.31440050	400	50	M12	250	350	75	14	4	4
K1532.31850065	500	65	M16	300	450	100	18	4	4
K1532.31860065	600	65	M16	400	550	100	18	4	4

Angle plates, grey cast iron, wide

with pre-machined clamping faces



Material:
GJL 300.

Version:
Support and mounting surfaces precision machined

Sample order:
K1531.100302230

Note:
Angle plates are used for the vertical positioning and mounting of workpieces and fixtures. Angle plates with pre-machined clamping faces provide a quick and economic method of producing a base with specific grid or individual holes. Ring bolts for hoisting are supplied.

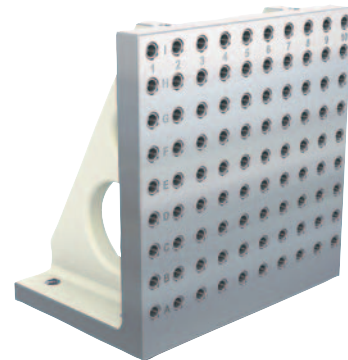
Drawing reference:
1) hole for DIN 912 cap screw

KIPP Angle plates, grey cast iron, wide with pre-machined clamping faces

Order No.	L	B	H	L2	B2	B3	H1	L8
K1531.100302230	300	220	300	250	90	100	30	40
K1531.100402840	400	280	400	320	90	160	30	40
K1531.100503450	500	340	500	400	90	200	35	50
K1531.100634363	630	435	630	500	100	250	40	50
K1531.100805280	800	525	800	640	115	320	45	50

Angle plates, grey cast iron, wide

with grid holes



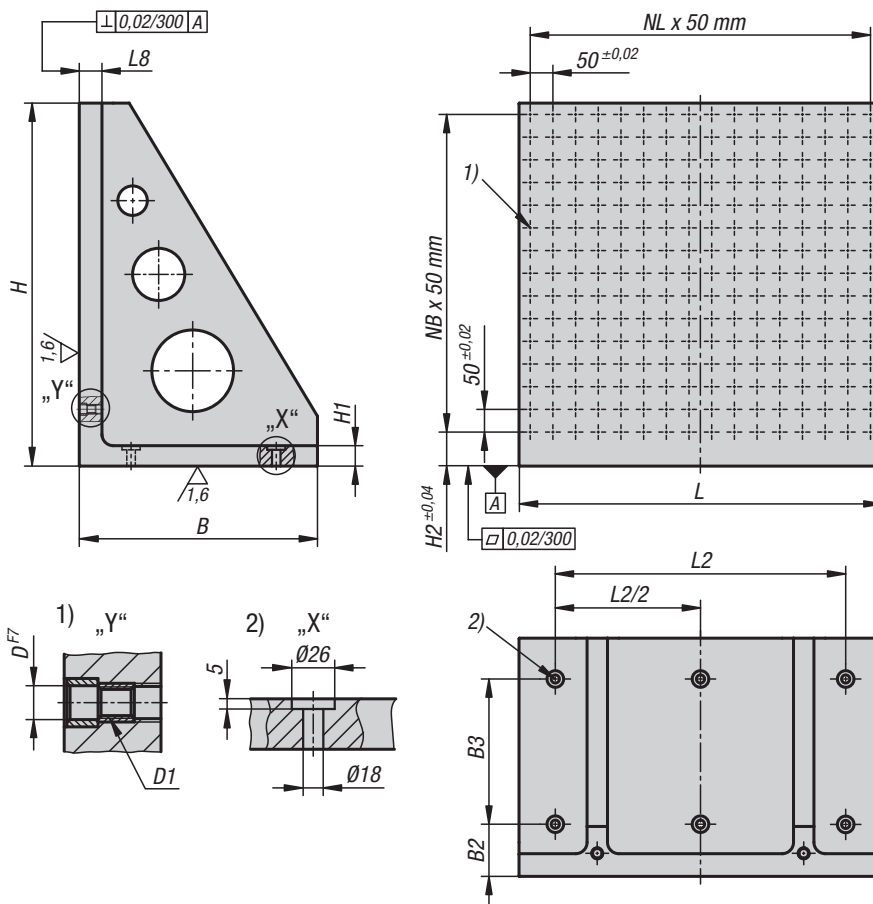
Material:
GJL 300.

Version:
Support and mounting surfaces precision machined

Sample order:
K1531.212302230

Note:
Grid spacing 50 ± 0.02 mm.
Angle plates are used for the vertical positioning and mounting of workpieces and fixtures. These angle plates with grid holes provide a quick and economic method of clamping workpieces with standardised clamping elements. The alphanumerically labelled grid holes guarantee a defined assignment of clamping elements by repeat setups. Ring bolts for hoisting are supplied. Please order protection plugs to plug unused grid holes separately.

Drawing reference:
1) grid hole
2) hole for DIN 912 cap screw

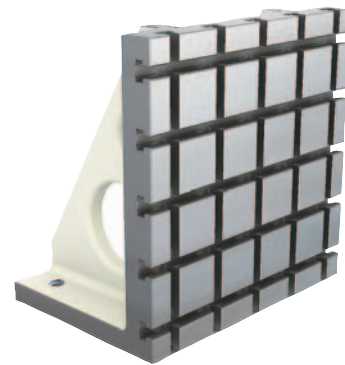


KIPP Angle plates, grey cast iron, wide with grid holes

Order No.	L	H	L2	B	B2	B3	H1	H2	L8	D	D1	N1=No. of grid holes	NL=No. lengthwise	NB=No. across
K1531.212302230	300	300	250	220	90	100	30	75	40	12	M12	30	5	4
K1531.212402840	400	400	320	280	90	160	30	75	40	12	M12	56	7	6
K1531.212503450	500	500	400	340	90	200	35	75	50	12	M12	90	9	8
K1531.212634363	630	630	500	435	100	250	40	40	50	12	M12	144	11	11
K1531.212805280	800	800	640	525	115	320	45	75	50	12	M12	240	15	14
K1531.216302230	300	300	250	220	90	100	30	75	40	16	M16	30	5	4
K1531.216402840	400	400	320	280	90	160	30	75	40	16	M16	56	7	6
K1531.216503450	500	500	400	340	90	200	35	75	50	16	M16	90	9	8
K1531.216634363	630	630	500	435	100	250	40	40	50	16	M16	144	11	11
K1531.216805280	800	800	640	525	115	320	45	75	50	16	M16	240	15	14

Angle plates, grey cast iron, wide

with T-slots



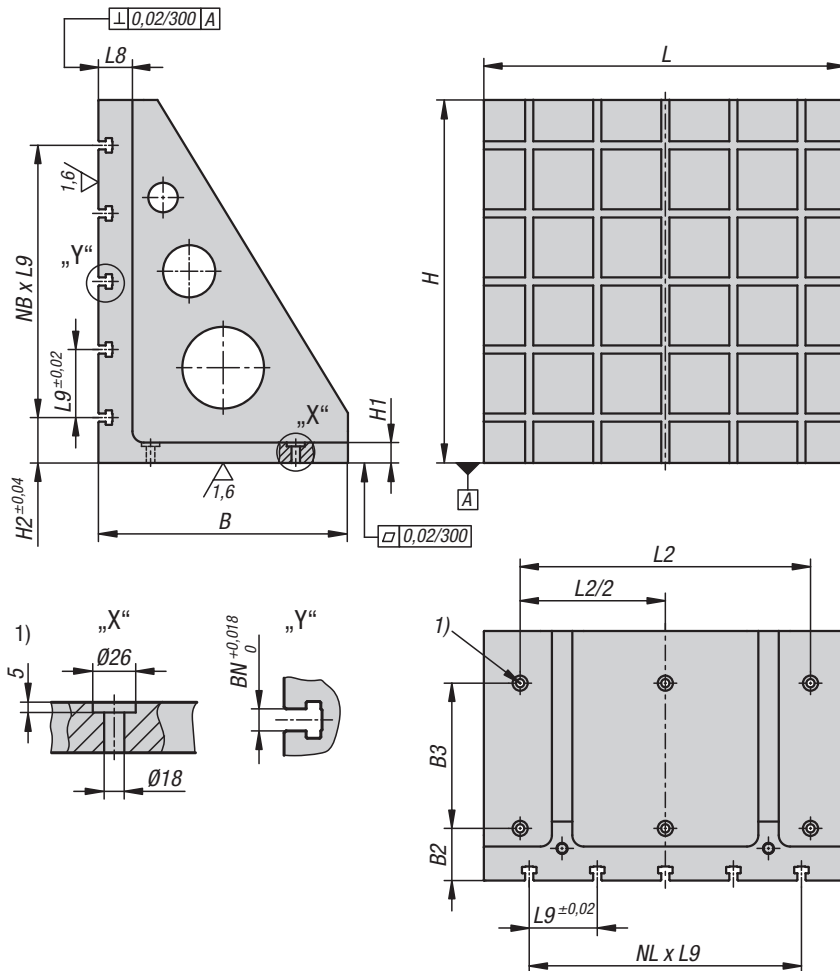
Material:
GJL 300.

Version:
Support and mounting surfaces precision machined

Sample order:
K1531.314302230

Note:
Angle plates are used for the vertical positioning and mounting of workpieces and fixtures. These angle plates with T-slots provide a quick and economic way of clamping workpieces with standardised clamping elements. The precise longitudinal and transverse slot spacing ensures high repeat clamping accuracy. Ring bolts for hoisting are supplied.

Drawing reference:
1) hole for DIN 912 cap screw

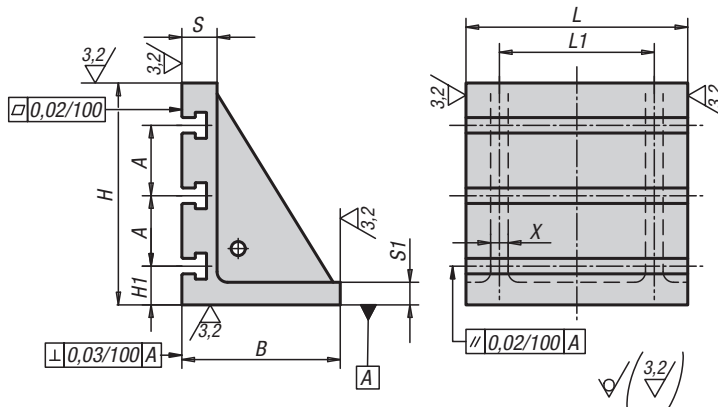


KIPP Angle plates, grey cast iron, wide with T-slots

Order No.	L	B	H	L2	B2	B3	H1	H2	L8	L9	BN=slot width	NL=No. lengthwise	NB=No. across
K1531.314302230	300	220	300	250	90	100	30	50	60	100	14	2	2
K1531.314402840	400	300	400	320	90	160	30	50	60	100	14	3	3
K1531.314503450	500	350	500	400	90	200	35	50	60	100	14	4	4
K1531.314634363	630	450	630	500	100	250	40	65	65	125	14	4	4
K1531.314805280	800	550	800	640	115	320	45	100	75	150	14	4	4
K1531.318302230	300	220	300	250	90	100	30	50	60	100	18	2	2
K1531.318402840	400	300	400	320	90	160	30	50	60	100	18	3	3
K1531.318503450	500	350	500	400	90	200	35	50	60	100	18	4	4
K1531.318634363	630	450	630	500	100	250	40	65	65	125	18	4	4
K1531.318805280	800	550	800	640	115	320	45	100	75	150	18	4	4

Angle plates

with or without T-slots cast iron

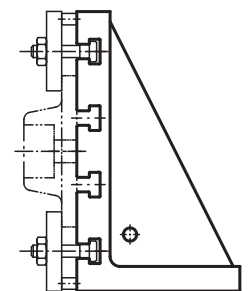


Material:
GJL 250 annealed.

Sample order:
K1451.3203701

On request:
Other slot widths.

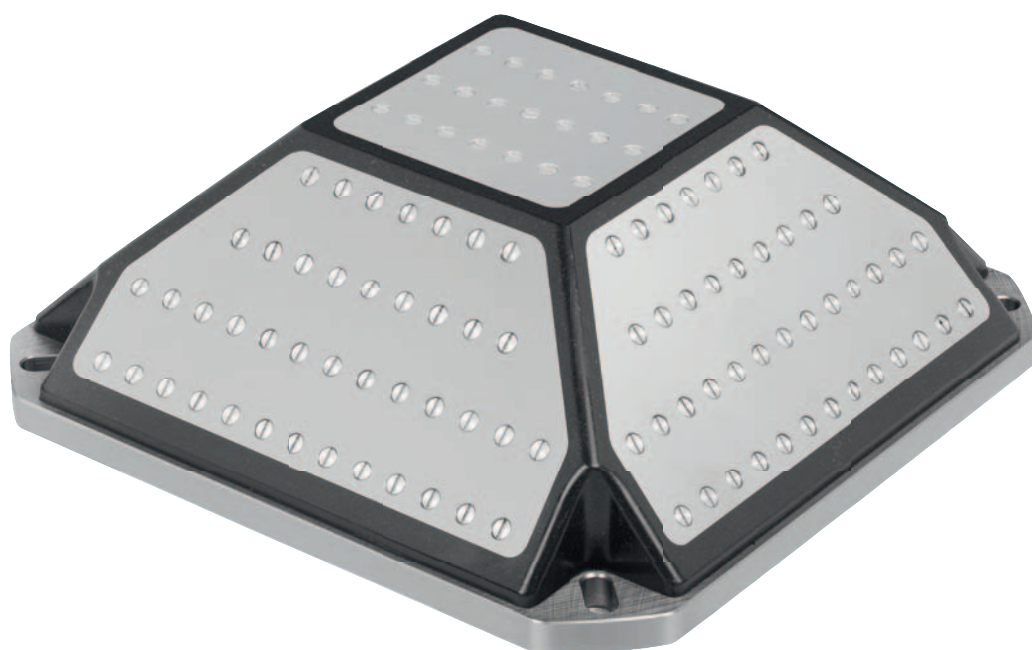
Drawing reference:
machined faces: +0.2 mm/ +0.5 mm
unmachined faces: ±2 mm



KIPP Angle plates with or without T-slots cast iron

Order No. without slot	Order No. with t-slot	L	L1	B	H	H1	S	S1	A	X	T-slot
K1451.100125	-	100	40	100	125	-	20	10	-	10	-
K1451.125160	-	125	100	100	160	-	20	10	-	10	-
K1451.200250	-	200	120	125	250	-	30	15	-	15	-
K1451.250300	-	250	200	150	300	-	40	20	-	20	-
K1451.320370	K1451.3203701	320	280	200	370	-/65	50	25	-/80	25	-/14
K1451.400450	K1451.4004501	400	280	265	450	-/75	60	30	-/100	30	-/18
K1451.500550	K1451.5005501	500	360	315	550	-/75	70	35	-/100	35	-/18

Mineral cast



“KIPPblock” workholding towers are used as an alternative to cast or steel tooling columns. Due to its low specific weight (lighter than aluminium), mineral cast towers are suitable for keeping the loading on 4 and 5-axis machines as low as possible. Ideal for use on machines with high accelerations and rapid traverse speeds.

The flexibility of design is highly convincing. Steel jacketed versions are also available in a wide range of shapes and sizes.

ADVANTAGES:

- Outstanding absorption properties, 6-10 times better than grey cast iron
- Very low specific weight, lighter than aluminium
- Low heat conductivity
- Flexible planning regarding design
- Up to 30% increased service life of cutting tools

For many years mineral cast has been used as an alternative to iron castings and steel constructions. Today it is the leading technology for many applications. It is thanks to mineral cast that new innovations in electronics and medical technology were made possible.

MINERAL CAST TECHNOLOGY

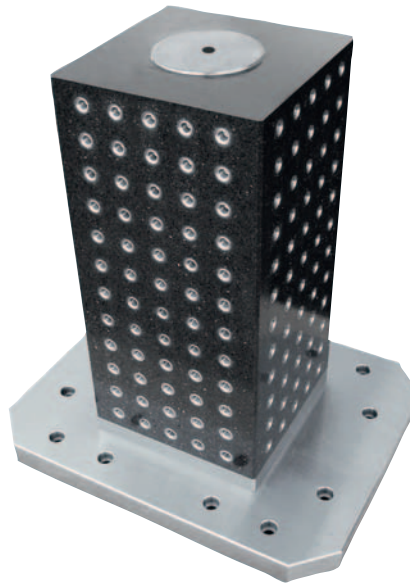
1. Mineral cast is a dual component system consisting of a mineral filler and an epoxy resin bonding agent.
2. The mineral filler makes up roughly 90% of the total weight.
3. Mineral cast is produced using a cold casting method injected into precision negative moulds at room temperature.
4. Due to the true form and high precision casting method, added elements such as plates, thread inserts, guides or tubes can be precisely placed in the casting mould.



KIPPblock



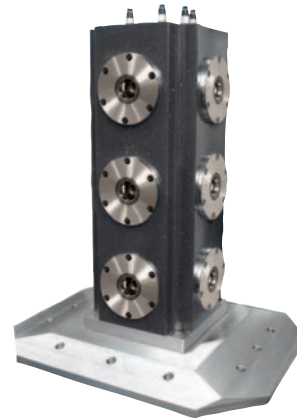
Mineral cast workholding tower



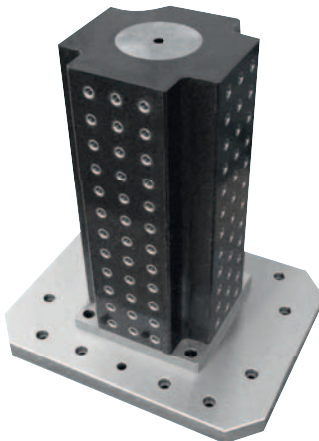
Mineral cast workholding tower with steel jacket



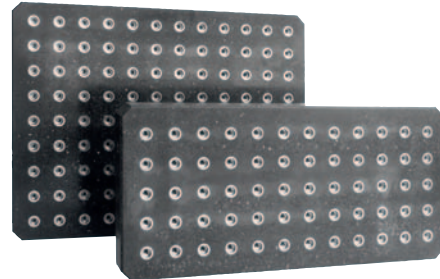
Mineral cast workholding tower with zero-point clamping system



Mineral cast cross tower

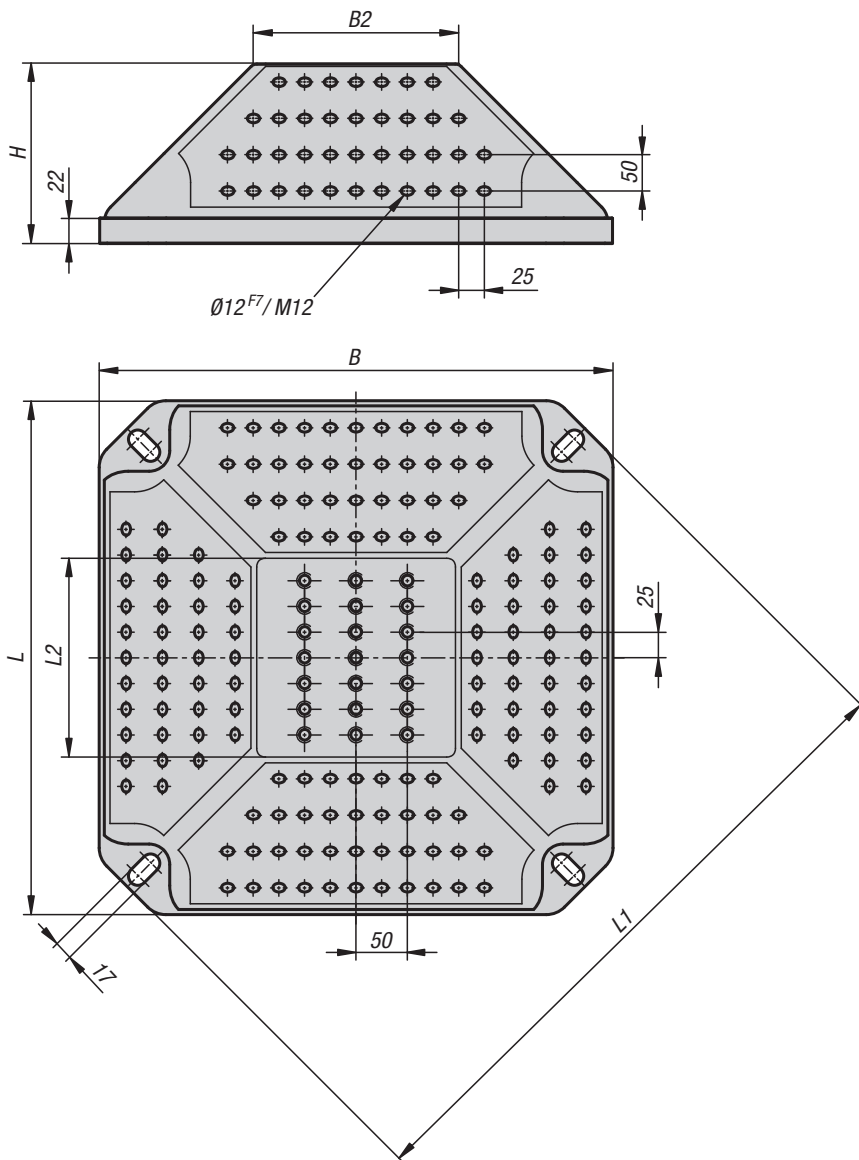
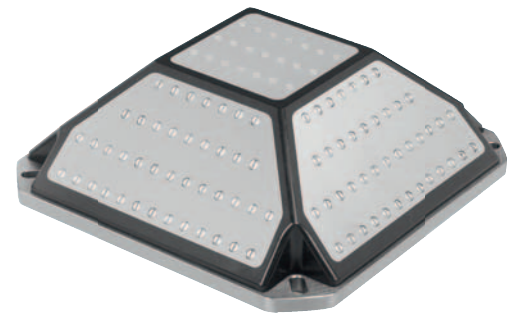


Mineral cast plates



Workholding pyramid

mineral cast



Material:

Mineral cast is a two-component system comprising mineral fillers and an epoxy resin as the binding agent.

Version:

Mineral cast is cold-cast using precision negative moulds at room temperature and subsequently hardened.

Sample order:

K1235.12400400140

Note:

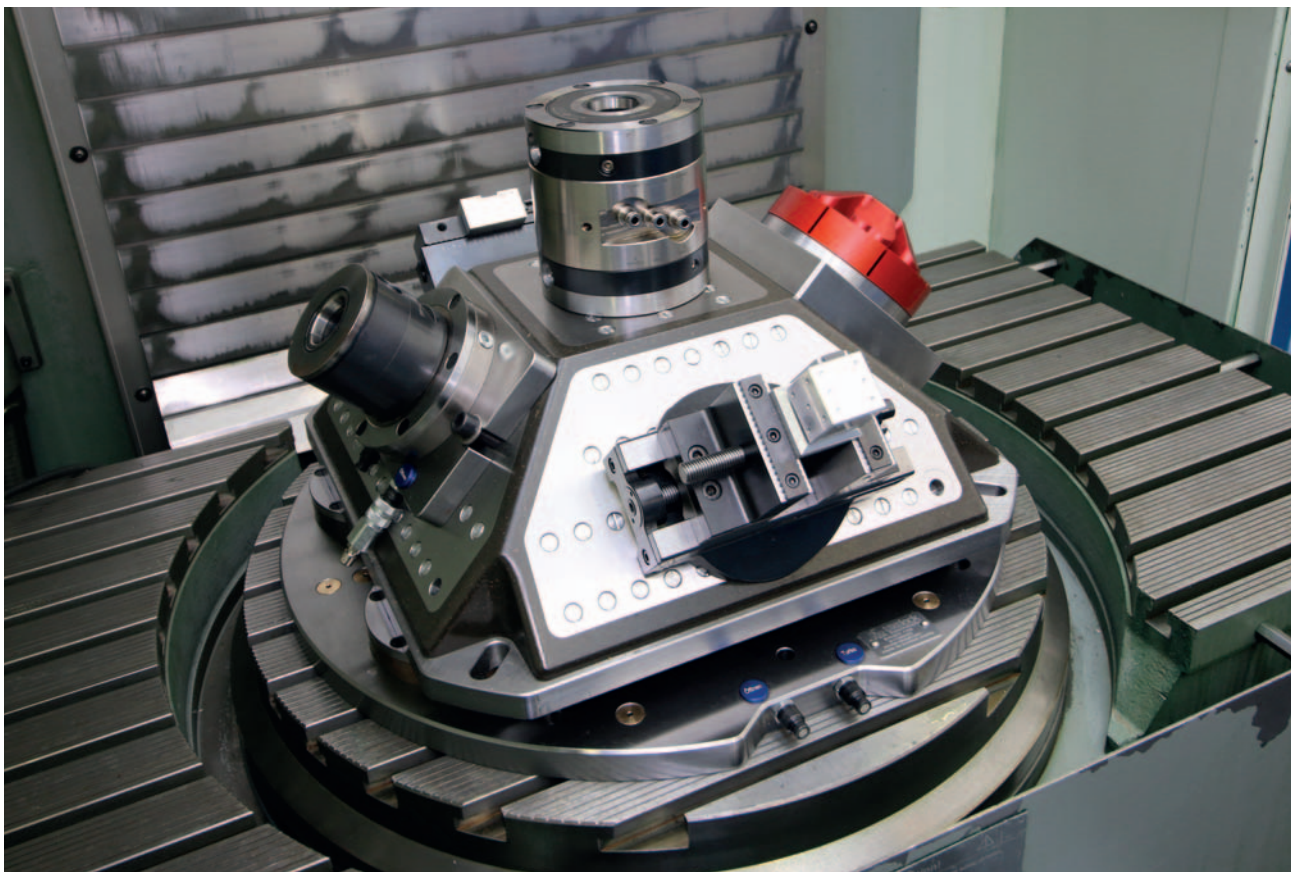
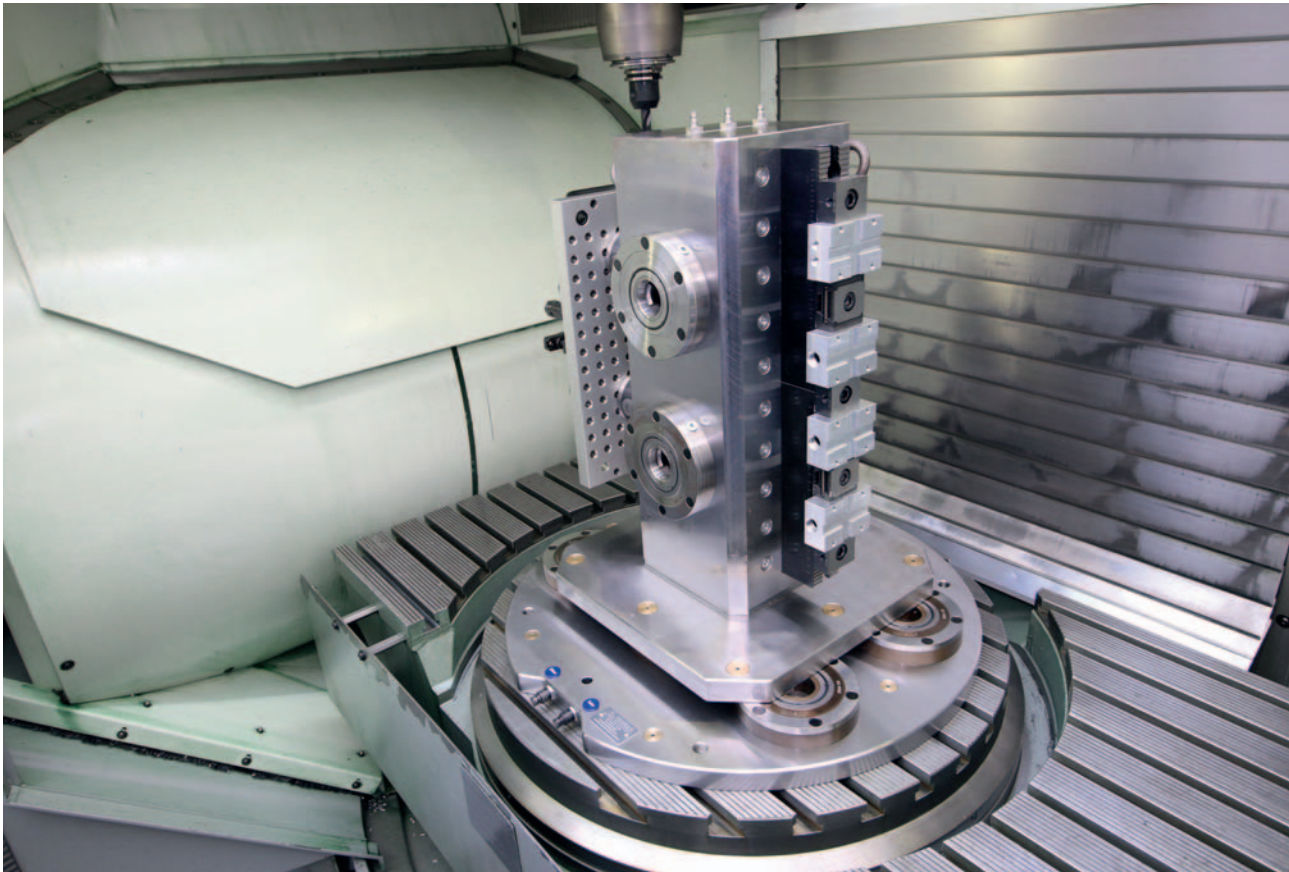
The mineral cast workholding pyramid was specifically developed for use on 5-axis machines. The pyramid form enables 5 different clamping systems or setups can be mounted on the clamping surfaces. The low net weight of the clamping pyramid means that the overall loading on the machine table is only slightly increased.

Advantages:

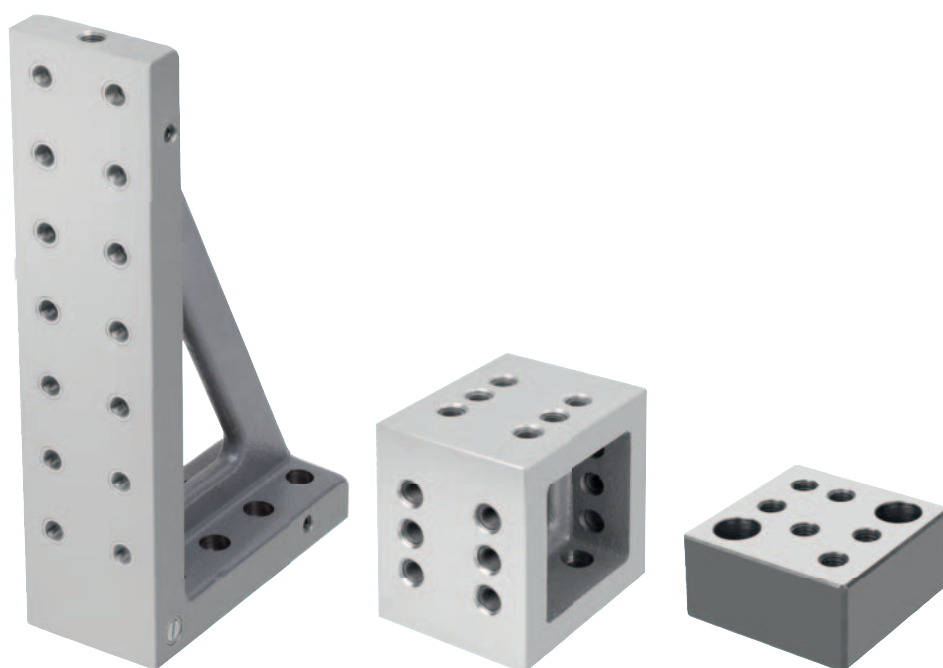
- Low specific weight, lighter than aluminium
- Outstanding vibration absorbing properties, 6–10 times better than grey cast iron
- Increased service life
- Low heat conductivity
- Flexible design options

KIPP Workholding pyramid, mineral cast

Order No.	B	B2	H	L	L1	L2	weight ca. kg
K1235.12400400140	400	160	140	400	470	160	52
K1235.12500500175	500	200	175	500	630	200	97

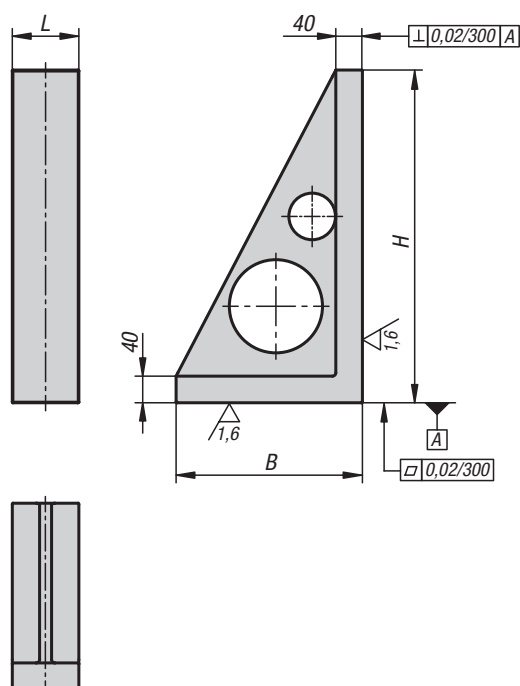


Add-on elements



Angle plates, grey cast iron, narrow

with pre-machined clamping faces



Material:

GJL 300.

Version:

Support and mounting surfaces precision machined

Sample order:

K0807.100181030

Note:

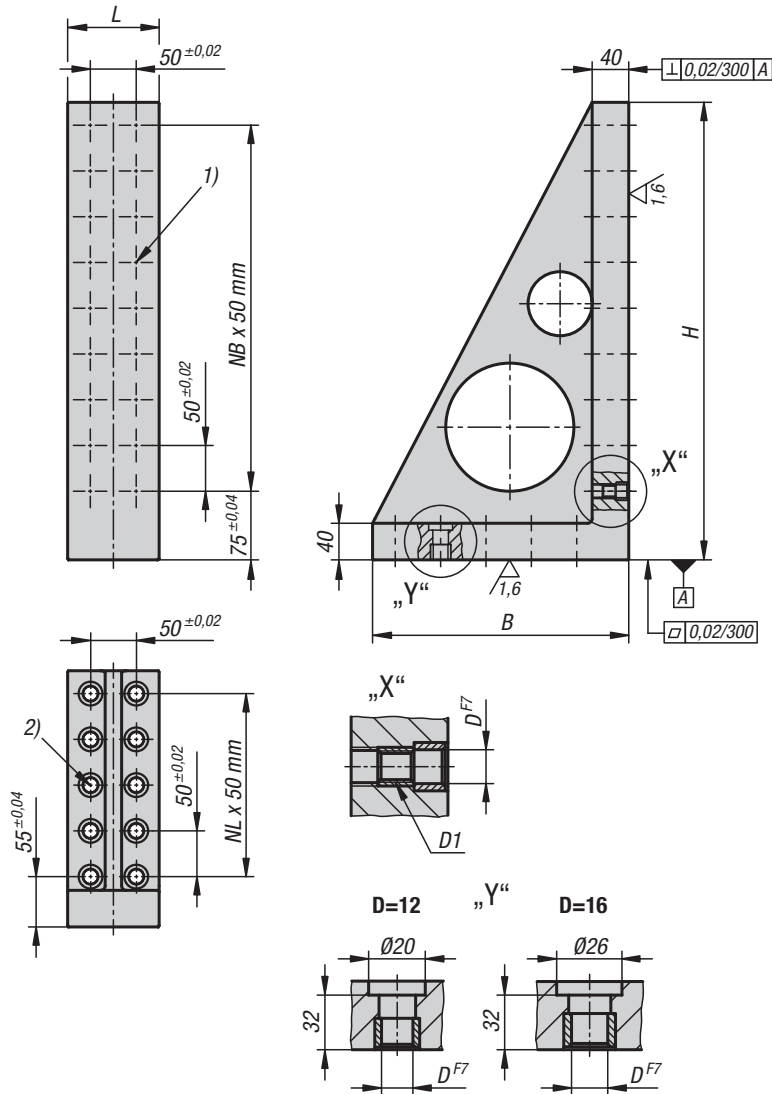
Angle plates are used for the vertical positioning and mounting of workpieces and fixtures. These angle plates with pre-machined clamping faces provide a quick and economic method of producing bodies with specific grid or individual holes.

KIPP Angle plates, grey cast iron, narrow with pre-machined clamping faces

Order No.	L	B	H
K0807.100181030	100	180	300
K0807.100231040	100	230	400
K0807.100281050	100	280	500

Angle plates, grey cast iron, narrow

with grid holes



Material:

GJL 300.

Version:

Support and mounting surfaces precision machined

Sample order:

K0807.212181030

Note:

Grid spacing $50 \pm 0,02$ mm.

Angle plates are used for the vertical positioning and mounting of workpieces and fixtures. The shoulder screws K0815 are used to position and fasten the angle plates on the grid plates K0800 or subplates K0806.

Size M12 angle plates are fastened using shoulder screws K0815.112065.

Size M16 angle plates are fastened using shoulder screws K0815.116065.

Please order protection plugs to plug unused grid holes separately.

Drawing reference:

1) grid hole

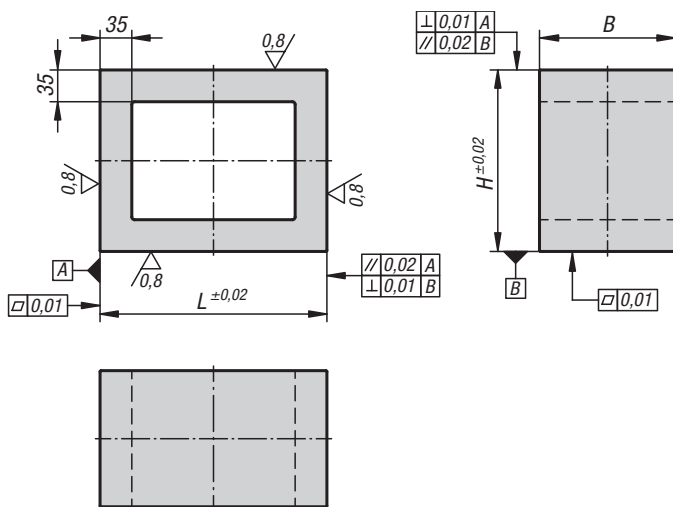
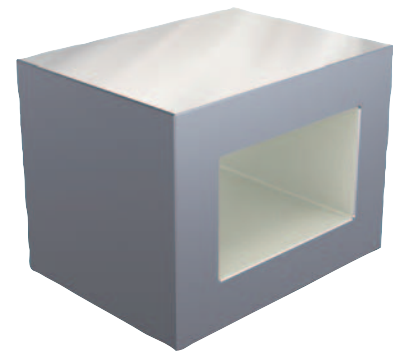
2) hole for shoulder screw

KIPP Angle plates, grey cast iron, narrow with grid holes

Order No.	L	B	H	D	D1	N1=No. of grid holes	No. of fastening holes	NL=No. lengthwise	NB=No. across
K0807.212181030	100	180	300	12	M12	10	6	2	4
K0807.212231040	100	230	400	12	M12	14	8	3	6
K0807.212281050	100	280	500	12	M12	18	10	4	8
K0807.216181030	100	180	300	16	M16	10	6	2	4
K0807.216231040	100	230	400	16	M16	14	8	3	6
K0807.216281050	100	280	500	16	M16	18	10	4	8

Tooling blocks, grey cast iron

with pre-machined clamping faces



Material:

GJL 300.

Version:

Support and mounting surfaces ground

Sample order:

K0809.100201515

Note:

Tooling blocks with pre-machined clamping faces are used for constructing fixtures. These tooling blocks provide a fast and economic way of producing elements with specific grid or individual holes. Tooling blocks can also be used as a base for clamping smaller workpieces.

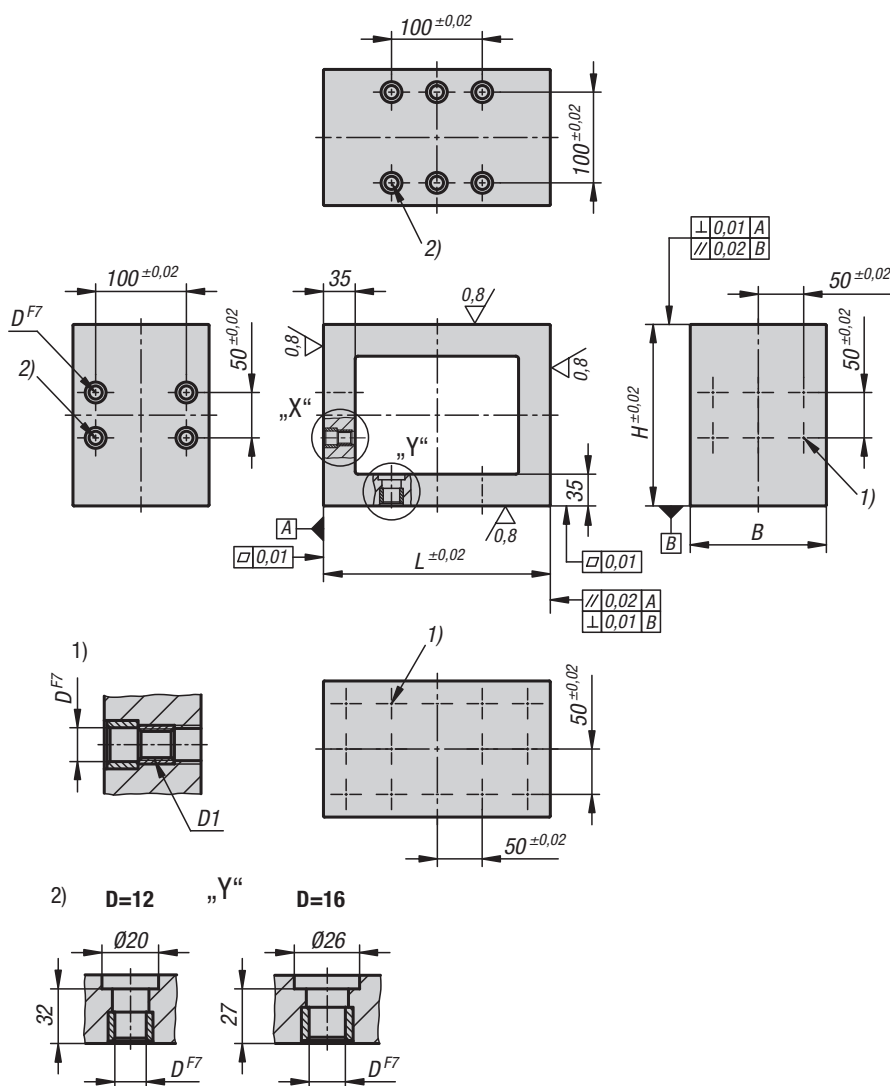
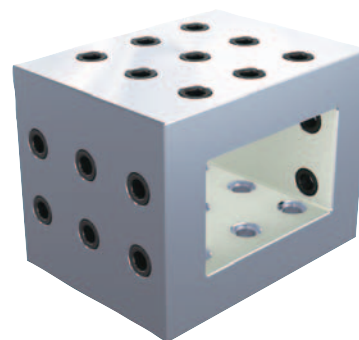
By length $L=300$, the middle reinforcing rib should be taken into consideration.

KIPP Tooling blocks, grey cast iron with pre-machined clamping faces

Order No.	L	B	H
K0809.100201515	200	150	150
K0809.100251520	250	150	200
K0809.100302025	300	200	250

Tooling blocks, grey cast iron

with grid holes



Material:

GJL 300.

Version:

Support and mounting surfaces ground

Sample order:

K0809.212201515

Note:

Grid spacing 50 ± 0.02 mm.

Tooling blocks with grid holes are used for constructing modular fixtures. They can be positioned and mounted precisely on grid systems. This means that the grid hole spacing is maintained on the raised clamping face.

Tooling blocks can also be used as a base element for clamping smaller workpieces.

Size M12 tooling blocks are fastened using shoulder screws K0815.112065. Size M16 tooling blocks are fastened using shoulder screws K0815.116065.

Please order protection plugs to plug unused grid holes separately.

Drawing reference:

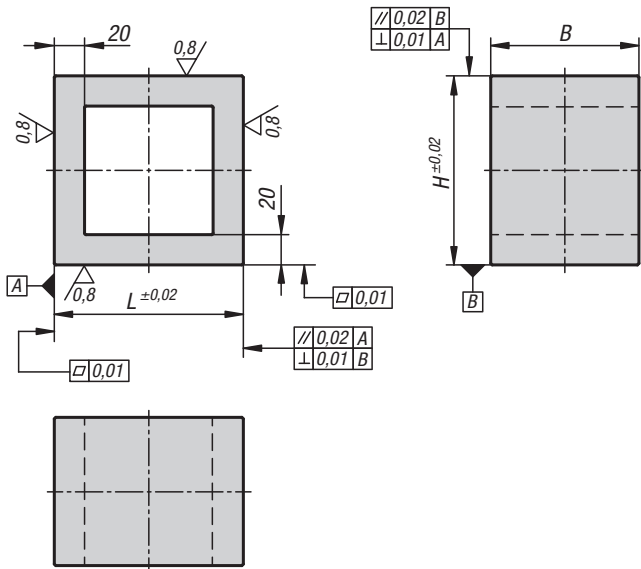
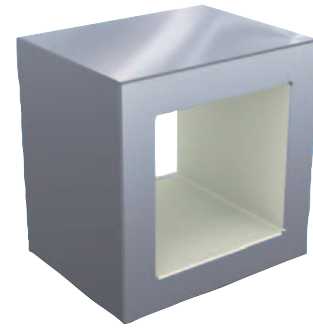
- 1) grid hole
- 2) hole for shoulder screw

KIPP Tooling blocks, grey cast iron with grid holes

Order No.	L	B	H	D	D1	N1=No. of grid holes	No. of fastening holes
K0809.212201515	200	150	150	12	M12	15	10
K0809.212251520	250	150	200	12	M12	21	14
K0809.216201515	200	150	150	16	M16	15	10
K0809.216251520	250	150	200	16	M16	21	14

Mini tooling blocks, grey cast iron

with pre-machined clamping faces



Material:

GJL 300.

Version:

Support and mounting surfaces ground

Sample order:

K0809.10012598125

Note:

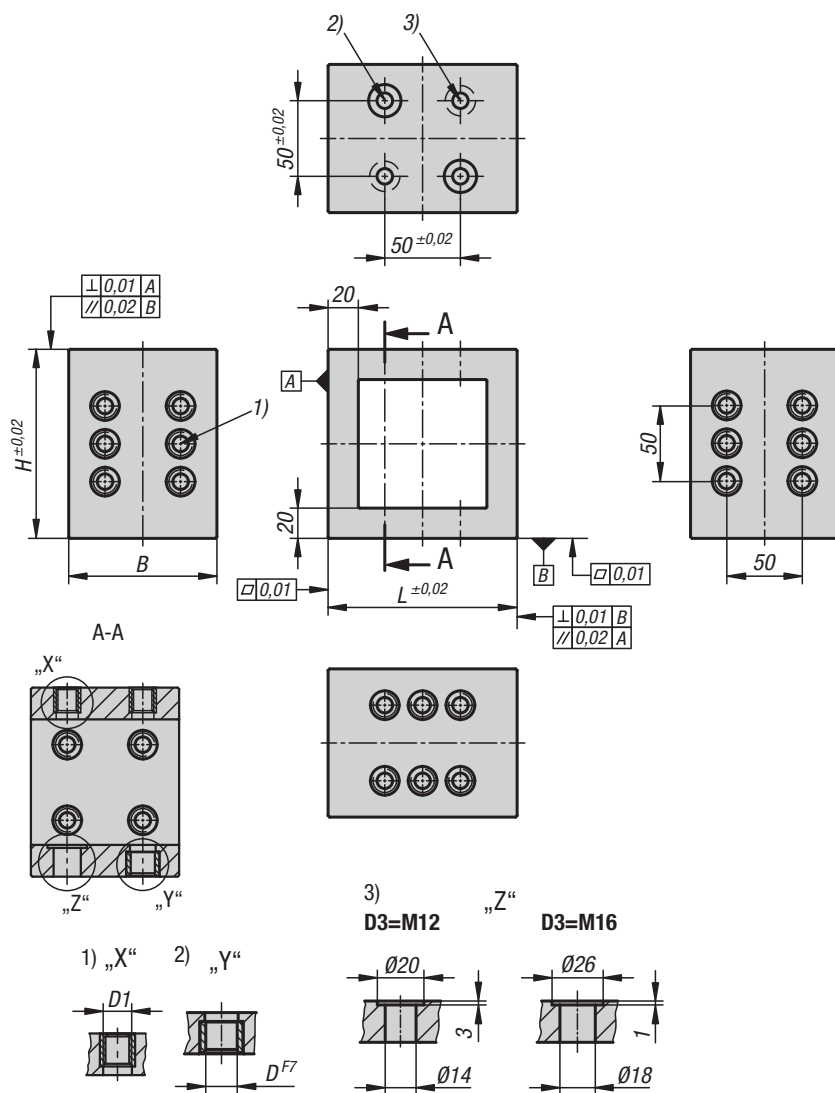
Tooling blocks with pre-machined clamping faces are used for constructing fixtures. These tooling blocks provide a fast and economic method of producing bodies with specific grid or individual holes. Tooling blocks can also be used as a body for clamping smaller workpieces.

KIPP Mini tooling blocks, grey cast iron with pre-machined clamping faces

Order No.	L	B	H
K0809.10012598125	125	98	125

Mini tooling blocks, grey cast iron

with grid holes



Material:

GJL 300.

Version:

Support and mounting surfaces ground

Sample order:

K0809.21212598125

Note:

Grid spacing 50 ± 0.02 mm.

Tooling blocks with grid holes are used for constructing modular fixtures. They can be positioned and mounted precisely on grid systems. This means that the grid hole spacing is maintained on the raised clamping face.

Tooling blocks can also be used as a base element for clamping smaller workpieces.

Size M12 tooling blocks are fastened using shoulder screws K0815.112065.

Size M16 tooling blocks are fastened using shoulder screws K0815.116065.

Please order protection plugs to plug unused grid holes separately.

Drawing reference:

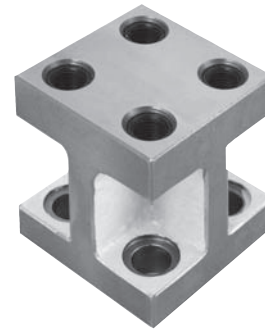
- 1) tapped hole
- 2) hole for shoulder screw
- 3) hole for DIN 912 cap screw

KIPP Mini tooling blocks, grey cast iron with grid holes

Order No.	L	B	H	D	D1	D3
K0809.21212598125	125	98	125	12	M12	M12
K0809.21612598125	125	98	125	16	M16	M16

Riser blocks, grey cast iron

Form H, short version



Material:

GJL 300.

Version:

Support and mounting surfaces ground

Sample order:

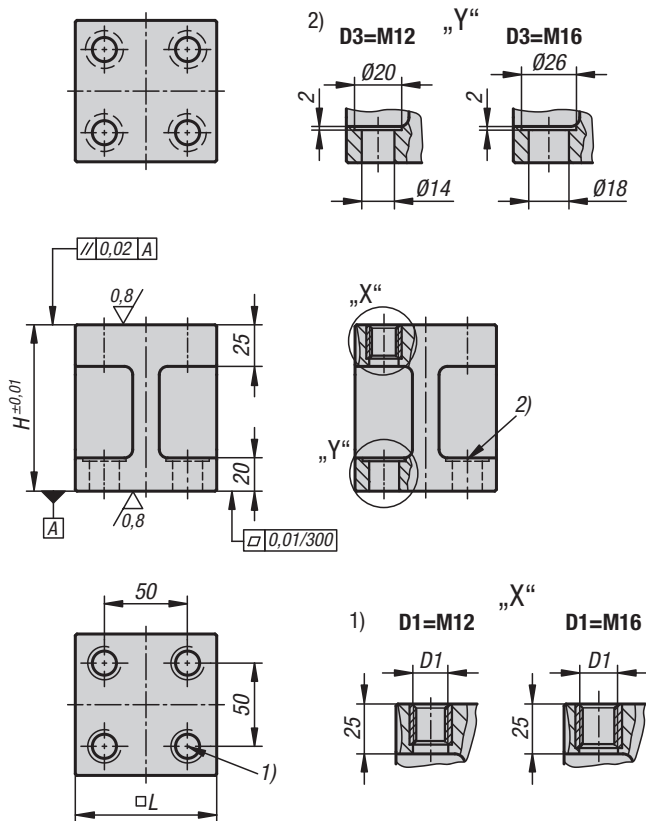
K1536.21208585100

Note:

Riser blocks are used for constructing modular fixtures. Several riser blocks can be mounted on each other. Support elements, clamping devices, and stops can then be mounted on the top riser block. Riser blocks are fastened using DIN 912 cap screws.

Drawing reference:

- 1) tapped hole
- 2) hole for DIN 912 cap screw



KIPP Riser blocks, grey cast iron Form H, short version

Order No.	D1	D3	H	L
K1536.21208585100	M12	M12	100	85
K1536.21208585125	M12	M12	125	85
K1536.21608585100	M16	M16	100	85
K1536.91608585125	M16	M16	125	85

Riser blocks, grey cast iron

Form H, long version



Material:

GJL 300.

Version:

Support and mounting surfaces ground

Sample order:

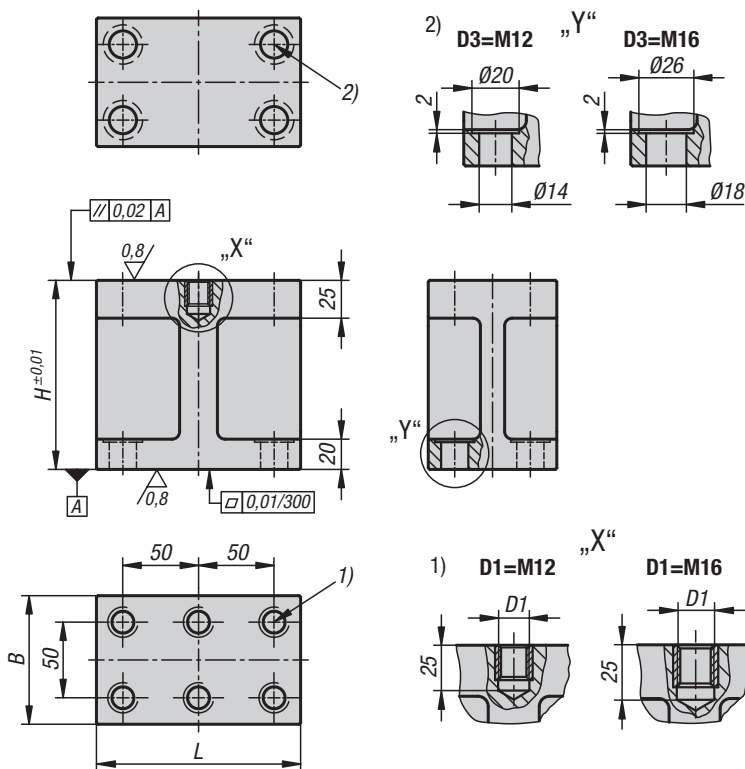
K1536.21213585100

Note:

Riser blocks are used for constructing modular fixtures. Several riser blocks can be mounted on each other. Support elements, clamping devices, and stops can then be mounted on the top riser block. Riser blocks are fastened using DIN 912 cap screws.

Drawing reference:

- 1) tapped hole
- 2) hole for DIN 912 cap screw



KIPP Riser blocks, grey cast iron Form H, long version

Order No.	L	B	H	D1	D3
K1536.21213585100	135	85	100	M12	M12
K1536.21213585125	135	85	125	M12	M12
K1536.21613585100	135	85	100	M16	M16
K1536.21613585125	135	85	125	M16	M16

Fastening blocks

Form M

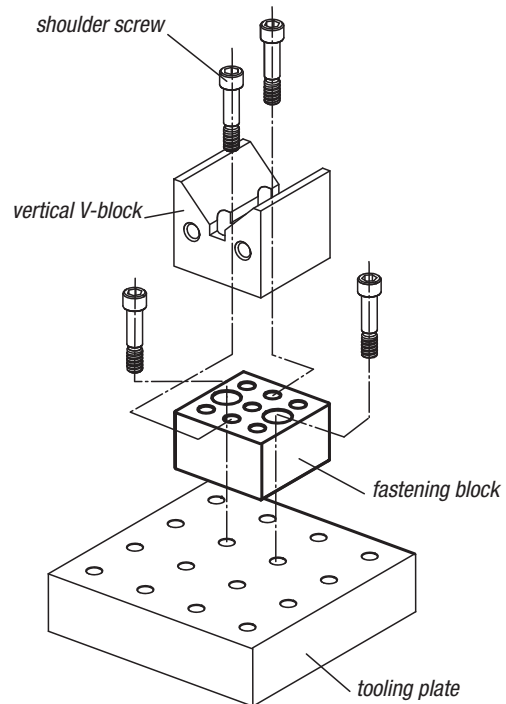
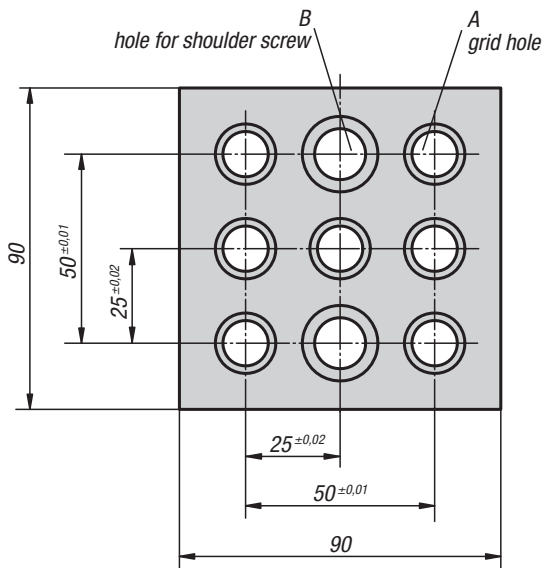
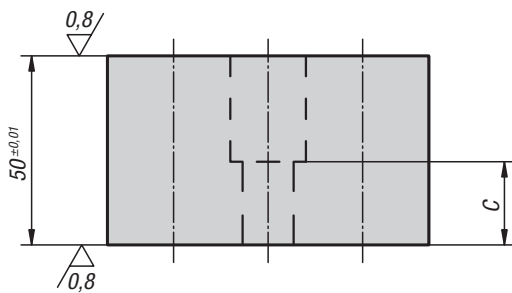


Material:
Carbon steel.

Version:
Black oxidised.
Contact faces ground.

Sample order:
K0810.12112050

Note:
Fastening blocks are used as risers for all system elements which have no movable seating faces - these include locating supports K0816, vertical V-blocks K0819.600.
They also allow positioning and fastening elements within a 50 ± 0.01 mm pitch (see application example).

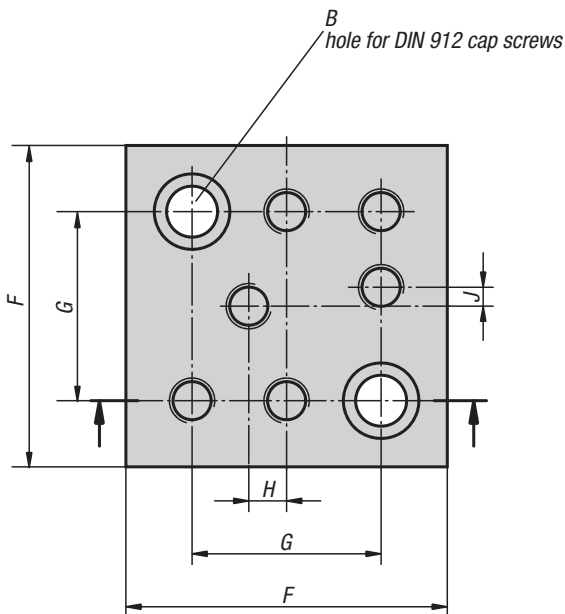
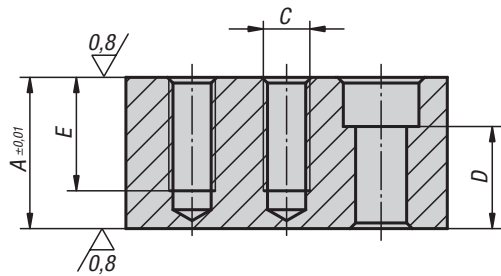


KIPP Fastening blocks Form M

Order No.	A locating hole	A thread	B Ø for shoulder screw	C	No. of grid holes	No. of mounting holes	Suitable shoulder screw	weight kg
K0810.12112050	12 F7	M12	12 F7	22	7	2	K0815.112055	2,693
K0810.12116050	16 F7	M16	16 F7	26	7	2	K0815.116055	2,38

Precision riser blocks

Form D



Material:

Carbon steel.

Version:

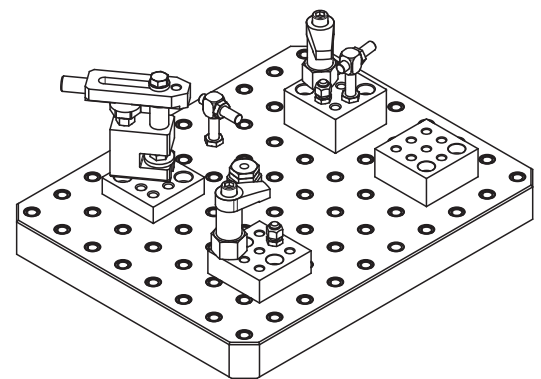
Black oxidised.
Contact faces ground.

Sample order:

K0811.14012025

Note:

Riser blocks are used to achieve a certain support height. The additional tapped holes in the risers are for mounting further fixture elements.

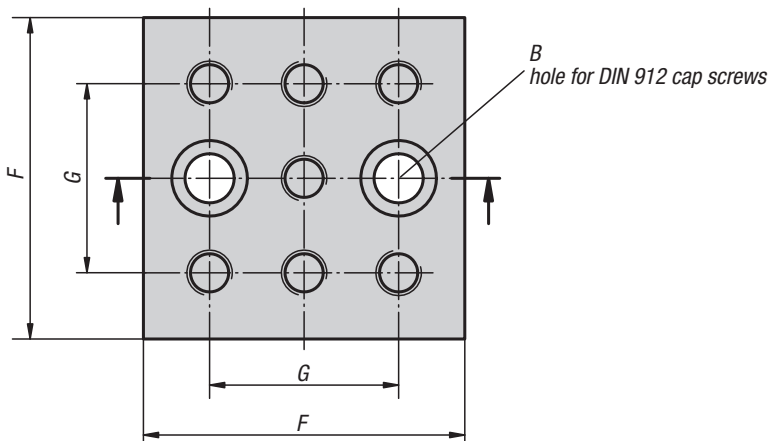
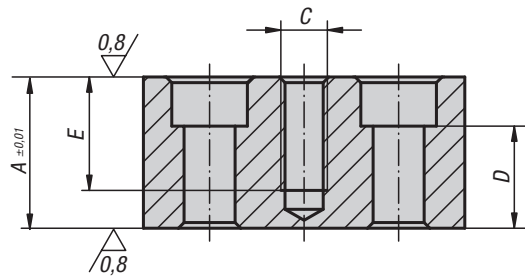


KIPP Precision riser blocks Form D

Order No.	A	B hole for DIN 912 screw	C	D	E	F	G	H	J	weight kg
K0811.14012025	25	M12	M12	12	25	85	50	10	5	1,218
K0811.14012032	32	M12	M12	19	32	85	50	10	5	1,56
K0811.14012040	40	M12	M12	27	30	85	50	10	5	1,97
K0811.14012050	50	M12	M12	37	30	85	50	10	5	2,5
K0811.14016025	25	M16	M16	8	25	85	50	10	5	1,039
K0811.14016032	32	M16	M16	15	32	85	50	10	5	1,33
K0811.14016040	40	M16	M16	23	35	85	50	10	5	1,7
K0811.14016050	50	M16	M16	33	35	85	50	10	5	2,123

Precision riser blocks

Form M



Material:

Carbon steel.

Version:

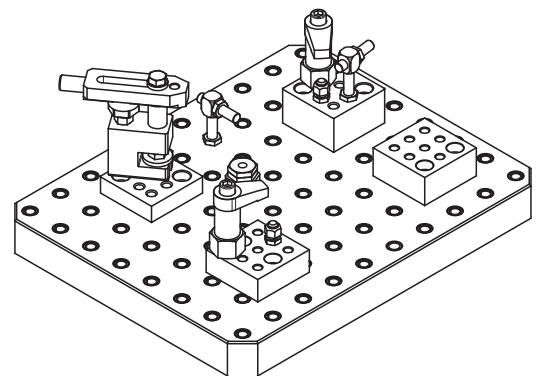
Black oxidised.
Contact faces ground.

Sample order:

K0811.14112025

Note:

Riser blocks are used to achieve a certain support height. The additional tapped holes in the risers are for mounting further fixture elements.



KIPP Precision riser blocks Form M

Order No.	A	B hole for DIN 912 screw	C	D	E	F	G	weight kg
K0811.14112025	25	M12	M12	12	25	85	50	1,199
K0811.14112032	32	M12	M12	19	32	85	50	1,535
K0811.14112040	40	M12	M12	27	30	85	50	1,955
K0811.14112050	50	M12	M12	37	30	85	50	2,43
K0811.14116025	25	M16	M16	8	25	85	50	1,007
K0811.14116032	32	M16	M16	15	32	85	50	1,31
K0811.14116040	40	M16	M16	23	35	85	50	1,648
K0811.14116050	50	M16	M16	33	35	85	50	2,104

Precision riser blocks

Form E

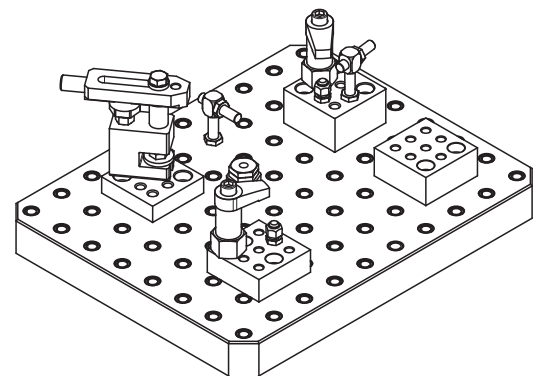
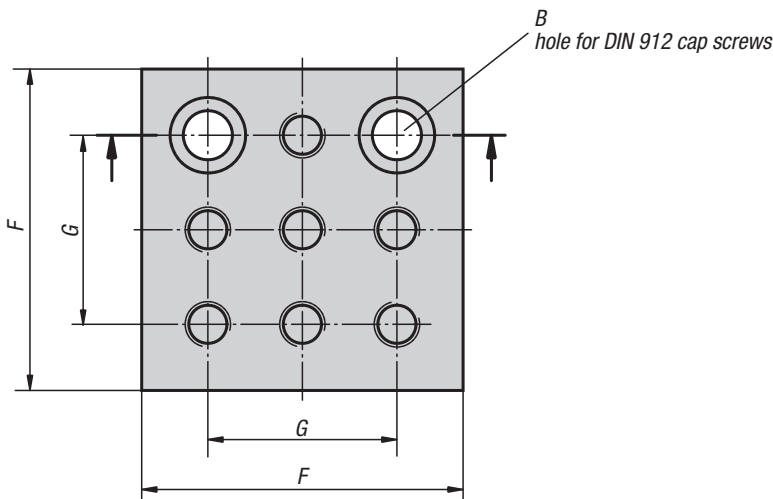
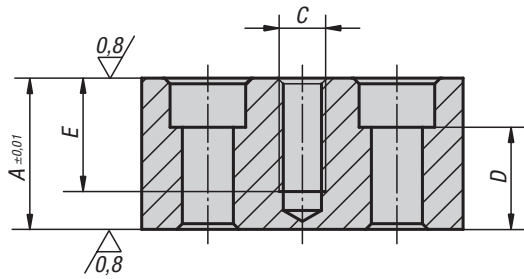


Material:
Carbon steel.

Version:
Black oxidised.
Contact faces ground.

Sample order:
K0811.14212025

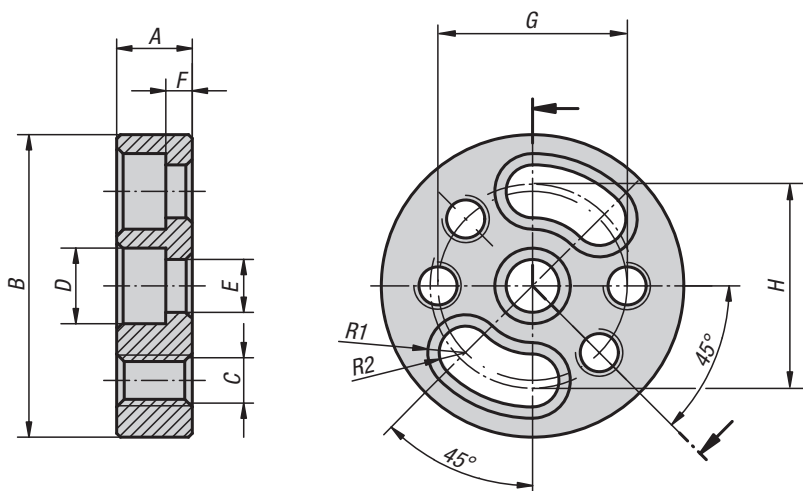
Note:
Riser blocks are used to achieve a certain support height. The additional tapped holes in the risers are for mounting further fixture elements.



KIPP Precision riser blocks Form E

Order No.	A	B hole for DIN 912 screw	C	D	E	F	G	weight kg
K0811.14212025	25	M12	M12	12	25	85	50	1,208
K0811.14212032	32	M12	M12	19	25	85	50	1,52
K0811.14212040	40	M12	M12	27	30	85	50	1,95
K0811.14212050	50	M12	M12	37	30	85	50	2,454
K0811.14216025	25	M16	M16	8	25	85	50	1,005
K0811.14216032	32	M16	M16	15	32	85	50	1,289
K0811.14216040	40	M16	M16	23	35	85	50	1,68
K0811.14216050	50	M16	M16	33	35	85	50	2,18

Round positioning plates

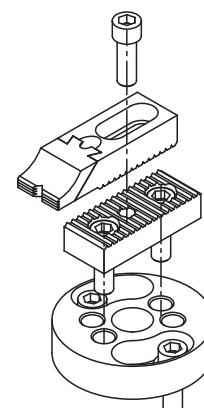


Material:
Carbon steel.

Version:
Black oxidised.

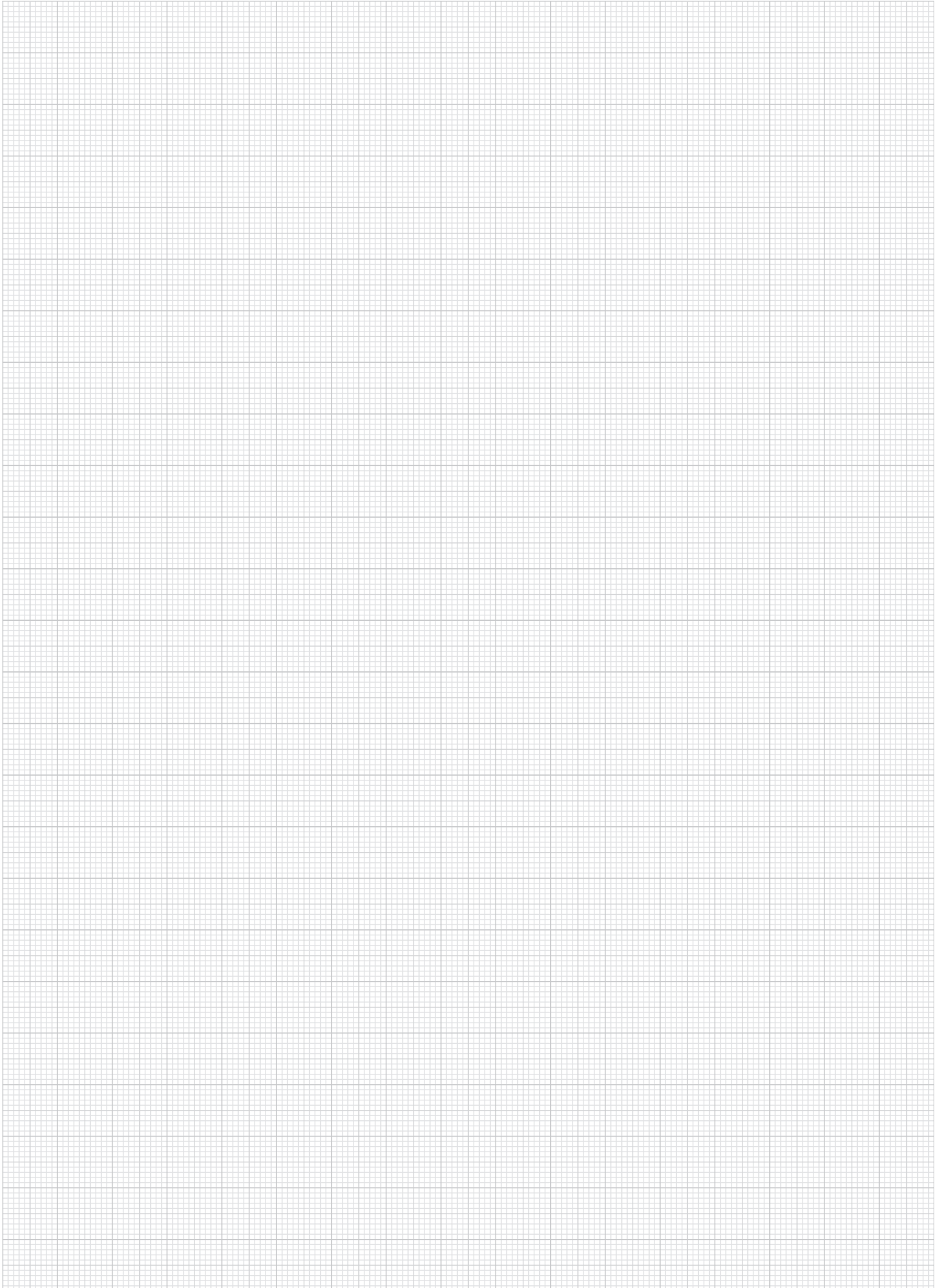
Sample order:
K0812.24212020

Note:
Round positioning plates allow clamps such as K0853.920 and K0853.930 to be positioned against the workpiece at an angle of e.g. 30°. The rack plates CL K0853.940 are mounted on the round positioning plate as intermediate adapters, the clamps are fitted and rotated to the correct position.



KIPP Round positioning plates

Order No.	A	B	C	D	E	F	G	H	R1	R2	weight kg
K0812.24212020	20	80	M12	20	14	7	50	50	10	7	0,492
K0812.24216025	25	100	M16	26	18	7	50	70,7	13	9	0,867



Fastener elements, Accessories



Connecting blocks

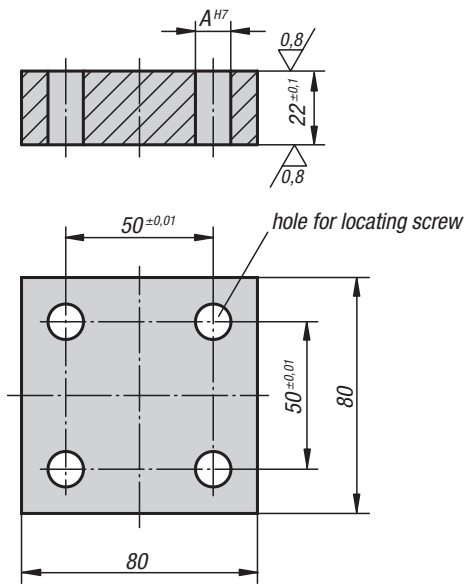


Material:
Carbon steel.

Version:
Black oxidised.
Contact faces ground.

Sample order:
K0854.40012050

Note:
When several tooling plates K0800 are used, connecting blocks are needed to maintain the correct grid hole pitch from one plate to the next. They are secured using 4 shoulder screws K0815.1....



KIPP Connecting blocks

Order No.	A	Suitable shoulder screw
K0854.40012050	12	K0815.112055
K0854.40016050	16	K0815.116065

Locating pins

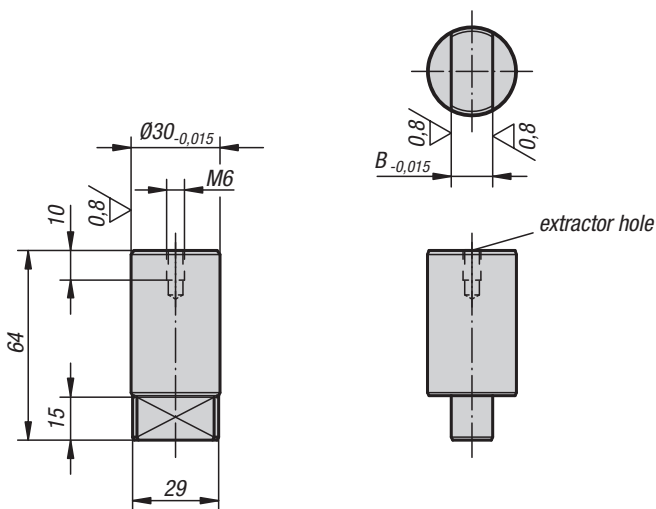


Material:
Carbon steel.

Version:
Tempered and black oxidised.
Precision diameters and guide faces ground.

Sample order:
K0855.12030

Note:
Locating pins are used for positioning grid plates K0800 on machine tables.



KIPP Locating pins

Order No.	B
K0855.12030	12
K0855.14030	14
K0855.18030	18
K0855.20030	20
K0855.22030	22

Centring pins

for central hole

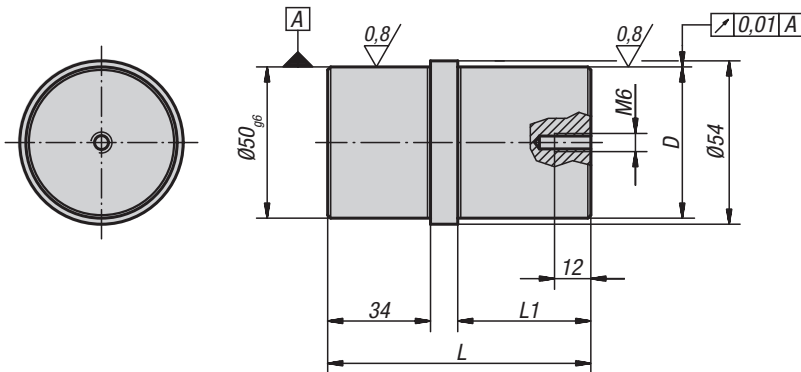


Material:
Steel.

Version:
Case-hardened.
Toleranced diameter ground.

Sample order:
K0856.5025

Note:
Centring pins for central holes are suitable for basic elements K0806, K0802, K0803, K0804 and K0805.



KIPP Centring pins for central hole

Order No.	D	L	L1
K0856.5025	25 g6	77	34
K0856.5030	30 h6	87	44
K0856.5050	50 g6	87	44

Centring pins

for aligning hole

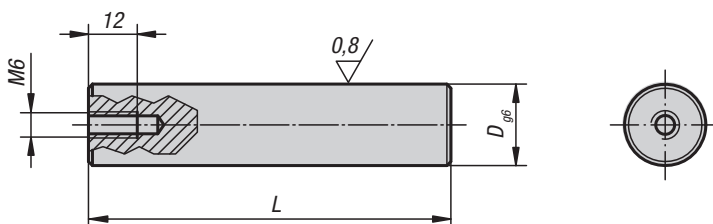


Material:
Steel.

Version:
Case-hardened.
Toleranced diameter ground.

Sample order:
K0857.25125

Note:
Centring pins for aligning holes are suitable for basic elements K0802, K0803 and K0805.



KIPP Centring pins for aligning hole

Order No.	D	L
K0857.20075	20	75
K0857.20089	20	89
K0857.25125	25	125

Centring pins

for aligning hole

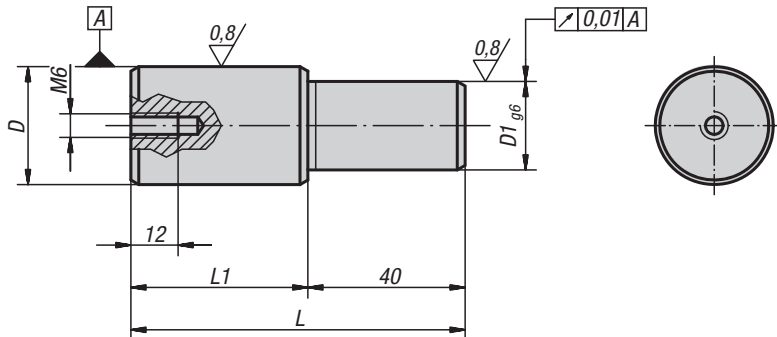


Material:
Steel.

Version:
Case-hardened.
Toleranced diameter ground.

Sample order:
K0858.2520

Note:
Centring pins for aligning holes are suitable for subplates K0806.



KIPP Centering pins for aligning hole

Order No.	D	D1	L	L1
K0858.2520	25 g6	20	75	35
K0858.3020	30 h6	20	85	45
K0858.3025	30 h6	25	85	45

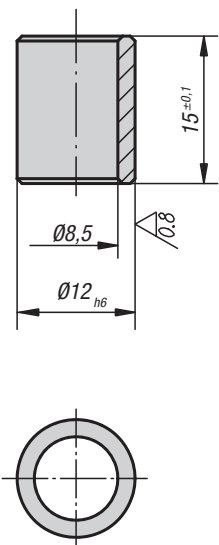
Locating sleeve



Material:
Tool steel.

Version:
Hardened and black oxidised.
Toleranced diameter ground.

Sample order:
K0814.44008012

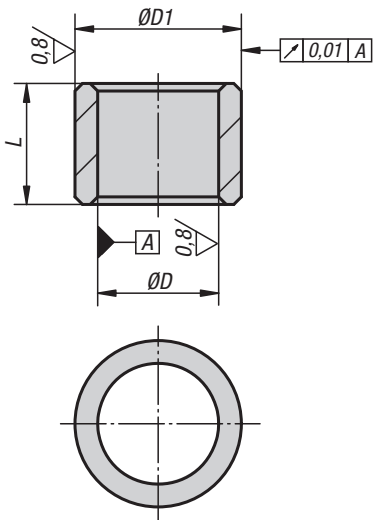


KIPP Locating sleeve

Order No.	Dimensions
K0814.44008012	see drawing

Locating bushings

for grid systems



Material:
Special case-hardened steel

Version:
Hardened and ground.

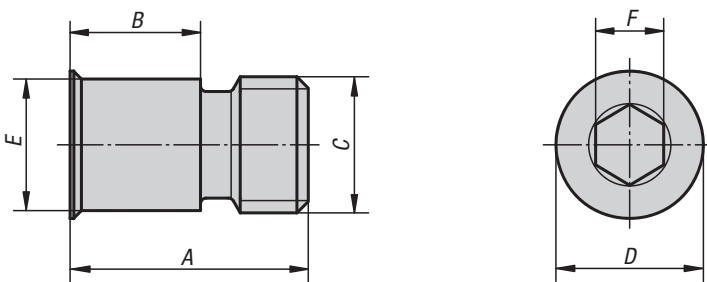
Sample order:
K0861.01508305002

Note:
See next page for assembly instructions for changing locating bushings.

KIPP Locating bushings for grid systems

Order No.	D	D1	L
K0861.01508305002	12h6	16 g5	8
K0861.01012304002	12F7	18 g6	12
K0861.01016405002	16F7	22 g6	16

Aluminium protection plugs



Material:
Aluminium.

Version:
Bright.

Sample order:
K0862.60108015

Note:
Use these plugs to seal grid holes and protect them from swarf and dirt.
Leave the protection plugs in holes not in use!
Aluminium plugs are used when aggressive coolants are used or when cutting dry.

KIPP Aluminium protection plugs

Order No.	A	B	C	D	E	F
K0862.60108015	15	7,5	M8	12,6	11,8	5
K0862.60112021	21	11,5	M12	13	11,6	6
K0862.60116026	26	15	M16	17	15,6	8

Threaded bushings

for grid systems



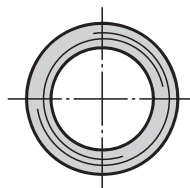
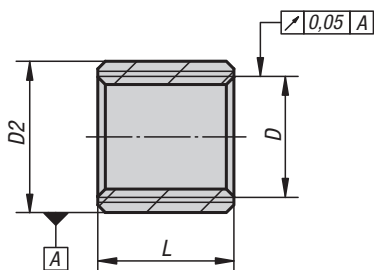
Material:
Carbon steel.

Version:
Tempered to 1100-1300 N/mm².

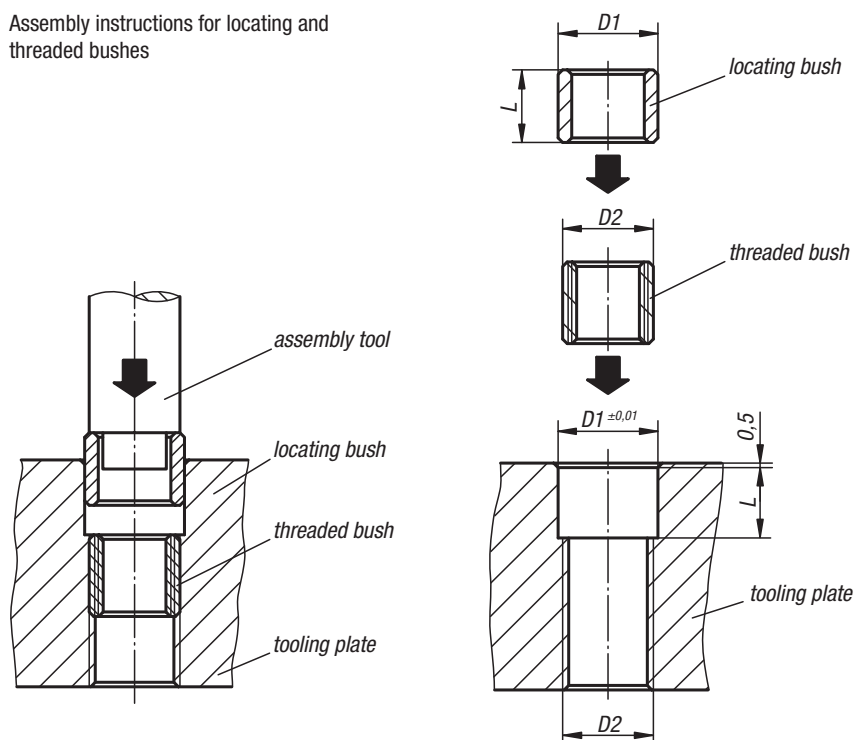
Sample order:
K0863.01508305003

Note:
Assembly instructions for changing threaded bushing.

- Inserting the locating and threaded bushing
1. Remove grease from the locating and threaded bushing.
 2. Apply adhesive (Loctite 638) in the hole.
 3. Apply adhesive (Loctite 638) on the threaded bushing and screw in.
 4. Apply adhesive (Loctite 638) to the locating bushing and insert it. If the locating bushing cannot be inserted by hand, please use an assembly tool as shown application example.
 5. Remove any adhesive pressed out by insertion of the locating and threaded bushing before it hardens.

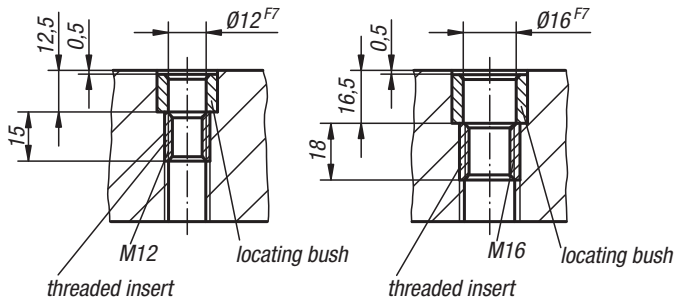
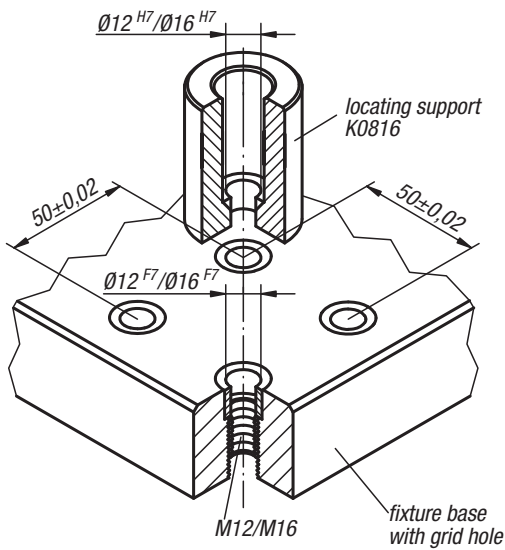
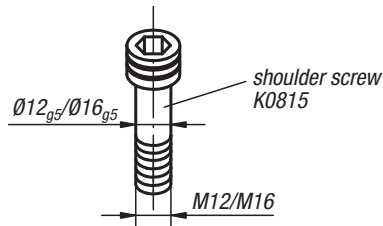


Assembly instructions for locating and threaded bushes



KIPP Threaded bushings for grid systems

Order No.	D	D2	L
K0863.01508305003	M8	M12x1,75	12
K0863.01012304003	M12	M16x1,5	15
K0863.01016405003	M16	M20x1,5	18



Grid hole:

The characteristic feature of the grid hole is its dual function: the coaxial arrangement of the locating and the threaded parts allows positioning and fastening at the same time with one grid hole (see illustrations). As a result, the size of the fixture elements can be reduced to a minimum and their flexibility increased accordingly.

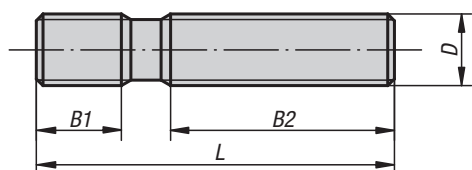
Each grid hole consists of two parts:

- reamed bush. Material: hardened tool steel.
- threaded insert. Material: carbon steel, tempered to ca. 1100-1300 N/mm².

Since the reamed bushes are recessed 0.5 mm from the surface of the fixture bases, the mounting surfaces can be re-machined in the event of wear.

Studs

DIN 6379



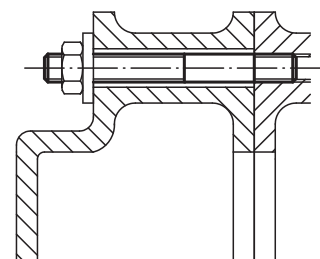
Material:
Carbon steel.

Version:
Thread rolled.
M6-M12 tempered to 10.9, black.
M14-M36 tempered to 8.8, black.

KIPP Studs DIN 6379

Order No.	D	L	B1	B2
K0697.0632	M6	32	9	16
K0697.0640	M6	40	9	20
K0697.0650	M6	50	9	30
K0697.0663	M6	63	9	40
K0697.0680	M6	80	9	50
K0697.06100	M6	100	9	63
K0697.0840	M8	40	11	20
K0697.0863	M8	63	11	40
K0697.0880	M8	80	11	50
K0697.08100	M8	100	11	63
K0697.08125	M8	125	11	75
K0697.08160	M8	160	11	100
K0697.1050	M10	50	13	25
K0697.1080	M10	80	13	50
K0697.10100	M10	100	13	75
K0697.10125	M10	125	13	75
K0697.10160	M10	160	13	100
K0697.10200	M10	200	13	125
K0697.1250	M12	50	15	25
K0697.1263	M12	63	15	32
K0697.1280	M12	80	15	50
K0697.12100	M12	100	15	63
K0697.12125	M12	125	15	75
K0697.12160	M12	160	15	100
K0697.12200	M12	200	15	125
K0697.1463	M14	63	17	32
K0697.1480	M14	80	17	50
K0697.14100	M14	100	17	63
K0697.14125	M14	125	17	75
K0697.14160	M14	160	17	100
K0697.14200	M14	200	17	125
K0697.14250	M14	250	17	160
K0697.1663	M16	63	19	32
K0697.1680	M16	80	19	50
K0697.16100	M16	100	19	63
K0697.16125	M16	125	19	75
K0697.16160	M16	160	19	100
K0697.16200	M16	200	19	125
K0697.16250	M16	250	19	160
K0697.16315	M16	315	19	180
K0697.16350	M16	350	19	200
K0697.16500	M16	500	20	315

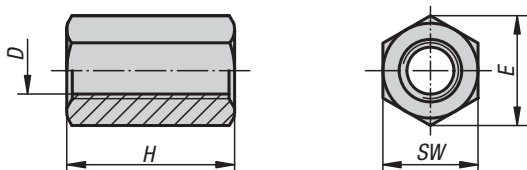
Sample order:
K0697.12125



Order No.	D	L	B1	B2
K0697.1880	M18	80	23	50
K0697.18125	M18	125	23	75
K0697.18160	M18	160	23	100
K0697.18200	M18	200	23	125
K0697.18250	M18	250	23	150
K0697.18315	M18	315	23	180
K0697.2080	M20	80	27	32
K0697.20125	M20	125	27	70
K0697.20160	M20	160	27	100
K0697.20200	M20	200	27	125
K0697.20250	M20	250	27	160
K0697.20315	M20	315	27	200
K0697.20400	M20	400	27	250
K0697.20500	M20	500	27	315
K0697.22100	M22	100	31	45
K0697.22160	M22	160	31	100
K0697.22200	M22	200	31	125
K0697.22250	M22	250	31	160
K0697.22315	M22	315	31	180
K0697.22400	M22	400	31	250
K0697.24100	M24	100	35	45
K0697.24125	M24	125	35	63
K0697.24160	M24	160	35	100
K0697.24200	M24	200	35	125
K0697.24250	M24	250	35	160
K0697.24315	M24	315	35	200
K0697.24400	M24	400	35	250
K0697.24500	M24	500	35	315
K0697.24630	M24	630	35	315
K0697.27125	M27	125	39	56
K0697.27200	M27	200	39	125
K0697.27315	M27	315	39	200
K0697.27400	M27	400	39	250
K0697.27500	M27	500	39	315
K0697.30125	M30	125	43	56
K0697.30200	M30	200	43	125
K0697.30315	M30	315	43	200
K0697.30500	M30	500	43	315
K0697.30700	M30	700	43	400
K0697.301000	M30	1000	44	400
K0697.36160	M36	160	51	80
K0697.36200	M36	200	51	125
K0697.36250	M36	250	51	160
K0697.36315	M36	315	51	200
K0697.36400	M36	400	51	250
K0697.36500	M36	500	51	315
K0697.36700	M36	700	51	400

Extension nuts

height 3xD



Material:

Carbon steel.

Version:

Tempered to grade 10.

Sample order:

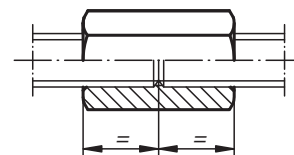
K0865.16

Note:

For functional and safety reasons screws should be screwed into a maximum of half the nut height from both sides. Minimum thread depth 1x diameter.

On request:

DIN ISO 272 spanner sizes.

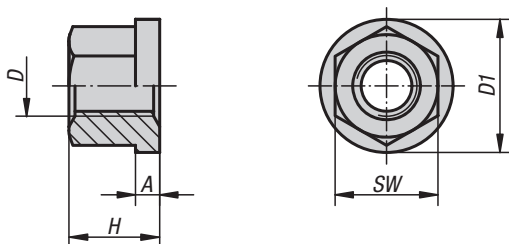


KIPP Extension nuts height 3xD

Order No.	D	H = 3 x D	SW	E
K0865.06	M6	18	10	11,5
K0865.08	M8	24	13	15
K0865.10	M10	30	17	19,6
K0865.12	M12	36	19	21,9
K0865.16	M16	48	24	27,7
K0865.20	M20	60	30	34,6

Hexagon nuts with collar

height 1.5xD, DIN 6331 enhanced



Material:

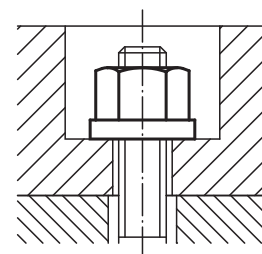
Carbon steel or stainless steel 1.4301.

Version:

Steel grade 10, black.
Stainless steel bright.

Sample order:

K0701.16

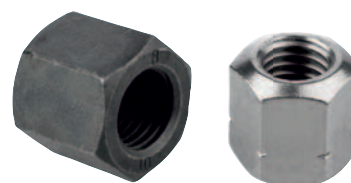


KIPP Hexagon nuts with collars, height 1.5xD, DIN 6331

Order No. high carbon steel -	Order No. stainless steel 1.4301	Order No. stainless steel 1.4401	D	H = 1,5 x D	A	D1	SW
K0701.05	-	-	M5	7,5	2	12	9
K0701.06	K0701.806	-	M6	9	3	14	10
K0701.08	K0701.808	K0701.908	M8	12	3,5	18	13
K0701.10	K0701.810	-	M10	15	4	22	16
K0701.101	K0701.811	K0701.910	M10	15	4	22	17
K0701.12	K0701.812	-	M12	18	4	25	18
K0701.121	K0701.8121	K0701.912	M12	18	4	25	19
K0701.14	-	-	M14	21	4,5	28	22
K0701.16	K0701.816	K0701.916	M16	24	5	31	24
K0701.18	-	-	M18	27	5	34	27
K0701.20	K0701.820	K0701.920	M20	30	6	37	30
K0701.22	-	-	M22	33	6	40	34
K0701.24	-	-	M24	36	6	45	36
K0701.30	-	-	M30	45	8	58	46
K0701.36	-	-	M36	54	10	68	55

Hexagon nuts

height 1.5xD, DIN 6330 enhanced



Material:

Carbon steel or stainless steel (A2).

Version:

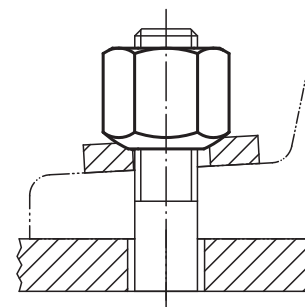
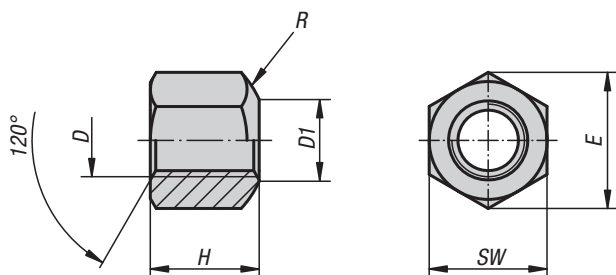
Tempered to 10, black.
Stainless steel A 2-70, bright.

Sample order:

K0702.12

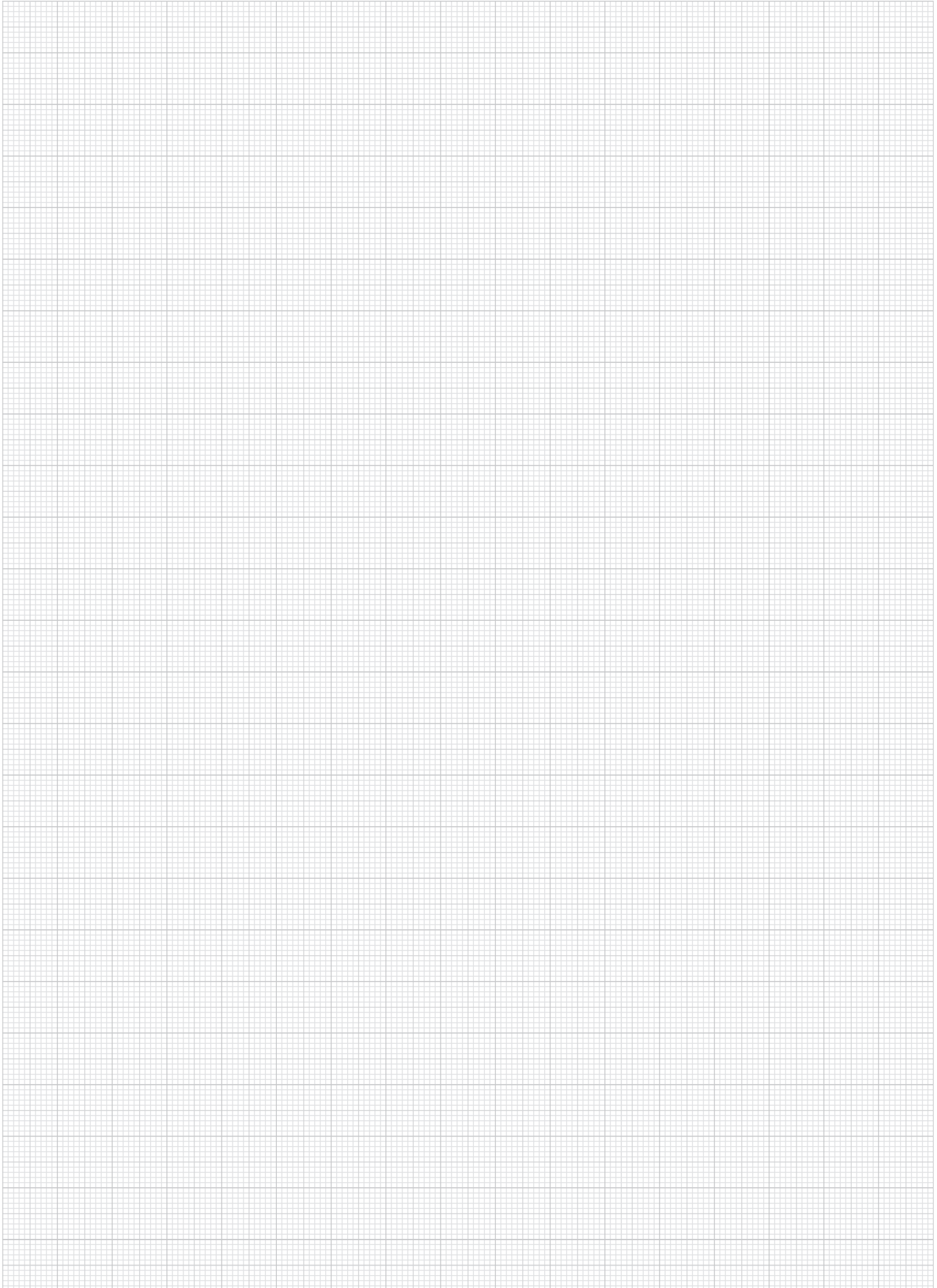
Note:

These hexagon nuts can be used with the conical seats K0729, Form D and G.



KIPP Hexagon nuts height 1.5xD, DIN 6330 enhanced

Order No.	Main material	D	H = 1,5 x D	D1	SW	E	R
K0702.05	high carbon steel	M5	7,5	6,5	9	10,4	7
K0702.06	high carbon steel	M6	9	7	10	11,5	9
K0702.08	high carbon steel	M8	12	9	13	15	11
K0702.10	high carbon steel	M10	15	11,5	16	18,4	15
K0702.101	high carbon steel	M10	15	11,5	17	19,6	15
K0702.12	high carbon steel	M12	18	14	18	20,7	17
K0702.121	high carbon steel	M12	18	14	19	21,9	17
K0702.14	high carbon steel	M14	21	16	22	25,4	20
K0702.16	high carbon steel	M16	24	18	24	27,7	22
K0702.18	high carbon steel	M18	27	20	27	31,2	24,5
K0702.20	high carbon steel	M20	30	22	30	34,6	27
K0702.22	high carbon steel	M22	33	24	32	36,9	29
K0702.24	high carbon steel	M24	36	26	36	41,6	32
K0702.30	high carbon steel	M30	45	32	46	53,1	41
K0702.36	high carbon steel	M36	54	38	55	63,5	50
K0702.806	stainless steel	M6	9	7	10	11,5	9
K0702.808	stainless steel	M8	12	9	13	15	11
K0702.810	stainless steel	M10	15	11,5	16	18,4	15
K0702.811	stainless steel	M10	15	11,5	17	19,6	15
K0702.812	stainless steel	M12	18	14	18	20,7	17
K0702.816	stainless steel	M16	24	18	24	27,7	22
K0702.820	stainless steel	M20	30	22	30	34,6	27



Washers for clamps

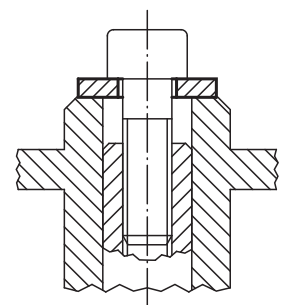
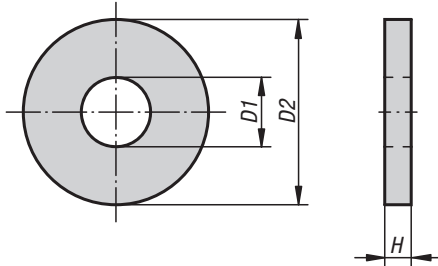
DIN 6340



Material:
Steel.

Version:
Stamped out, pressed flat and tempered to 1200-1400 N/mm², black.

Sample order:
K0867.16

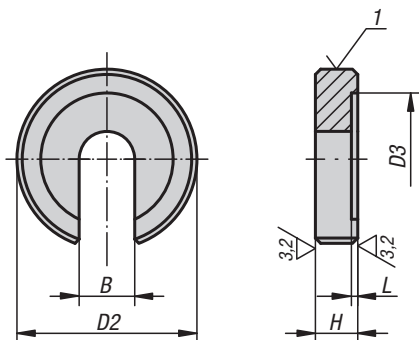


KIPP Heavy-duty washers DIN 6340

Order No. steel	D1	D2	H	for screw
K0867.06	6,4	17	3	M6
K0867.08	8,4	23	4	M8
K0867.10	10,5	28	4	M10
K0867.12	13	35	5	M12
K0867.16	17	45	6	M16
K0867.20	21	50	6	M20

C-washers

DIN 6372, enhanced

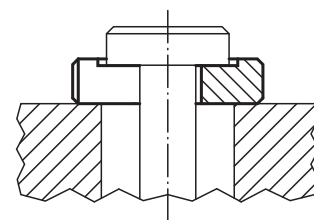


Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0730.12

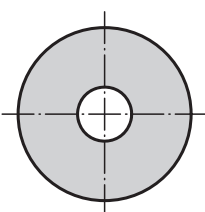
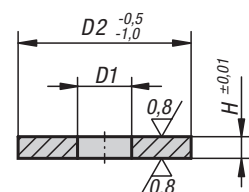
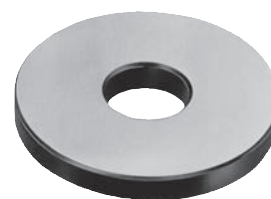
Drawing reference:
1) cross knurl



KIPP C-washers for fixtures DIN 6372, enhanced

Order No.	B	D2	D3	H	L
K0730.05	5,25	17	12	5	0,75
K0730.06	6,4	22	16	6	0,8
K0730.08	8,4	28	21	7	1
K0730.10	10,5	34	25	8	1,2
K0730.12	13	40	30	9	1,8
K0730.14	14,5	48	33	12	1,8
K0730.16	17	56	37	12	1,8
K0730.20	21	64	45	14	2
K0730.24	25	75	52	16	2
K0730.30	31	90	65	18	2
K0730.36	37	100	75	20	2,5

Spacing washers

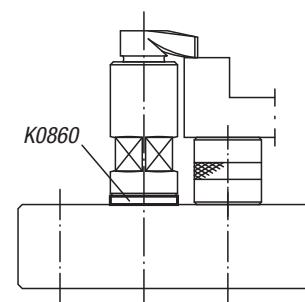


Material:
Carbon steel.

Version:
Tempered, black oxidised.
Contact faces ground.

Sample order:
K0860.16005

Note:
The spacing washer is used to alter the clamping range of hook clamps and hook holders. When a spacing washer is inserted between the base and the hook holder or riser cylinder it prevents damage to the support face.



KIPP Spacer washers, ground

Order No.	D1	D2	H
K0860.08003	9	24	3
K0860.08005	9	24	5
K0860.08008	9	24	8
K0860.12001	12,5	40	1
K0860.12003	12,5	40	3
K0860.12005	12,5	40	5
K0860.16001	16,5	50	1
K0860.16003	16,5	50	3
K0860.16005	16,5	50	5
K0860.16105	16,5	60	5

Washers

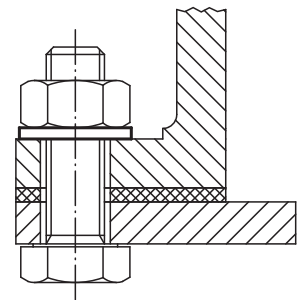
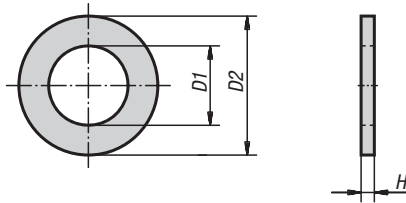
medium, DIN EN ISO 7089 A



Material:
Steel 140 HV or stainless steel (A 2-70)

Version:
Bright.

Sample order:
K0868.10

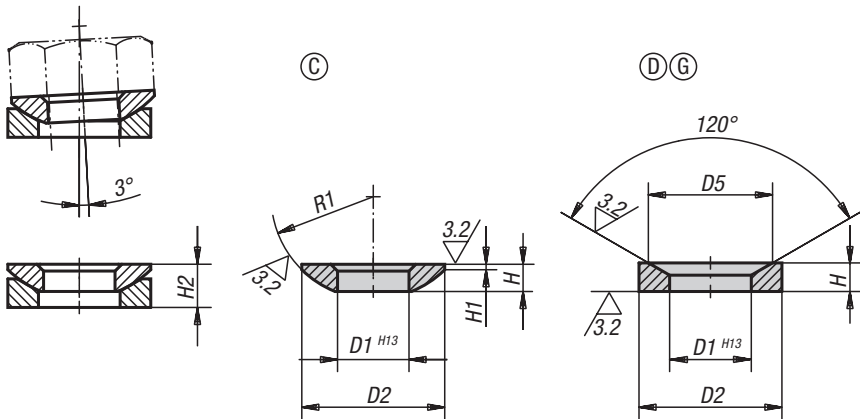


KIPP Medium washers DIN EN ISO 7089 A

Order No. steel	Order No. stainless steel	for screws	D1	D2	H
K0868.03	K0868.103	M3	3,2	7	0,5
K0868.04	K0868.104	M4	4,3	9	0,8
K0868.05	K0868.105	M5	5,3	10	1
K0868.06	K0868.106	M6	6,4	12	1,6
K0868.08	K0868.108	M8	8,4	16	1,6
K0868.10	K0868.110	M10	10,5	20	2
K0868.12	K0868.112	M12	13	24	2,5
K0868.14	K0868.114	M14	15	28	2,5
K0868.16	K0868.116	M16	17	30	3
K0868.20	K0868.120	M20	21	37	3
K0868.24	K0868.124	M24	25	44	4
K0868.30	K0868.130	M30	31	56	4
K0868.36	K0868.136	M36	37	66	5

Spherical washers

DIN 6319, 10/01



Material:

Mild steel or stainless steel.
Form G high carbon steel tempered to HV 390 ±40.

Version:

Steel version case hardened.
Stainless steel version bright, not hardened.

Sample order:

K0729.216

Note:

Conical seat Form G should be used over slots.

Drawing reference:

Form C: spherical washer
Form D: conical seat
Form G: conical seat for slots

KIPP Spherical washers Form C, DIN 6319, edition 10/01

Order No. mild steel	Order No. stainless steel	Form	D1	D2	H	H1	R1	Load rating max. kN (static load only)
K0729.105	-	C	5,25	10,5	2	0,4	7,5	6,5
K0729.106	K0729.0106	C	6,4	12	2,3	0,7	9	9/6
K0729.108	K0729.0108	C	8,4	17	3,2	0,6	12	17/12
K0729.110	K0729.0110	C	10,5	21	4	0,8	15	26/16
K0729.112	K0729.0112	C	13	24	4,6	1,1	17	38/24
K0729.114	-	C	15	28	5	1,2	22	53
K0729.116	K0729.0116	C	17	30	5,3	1,3	22	73/45
K0729.120	K0729.0120	C	21	36	6,3	2	27	117/71
K0729.124	K0729.0124	C	25	44	8,2	2,4	32	168/105
K0729.130	K0729.0130	C	31	56	11,2	3,6	41	269/191
K0729.136	K0729.0136	C	37	68	14	4,6	50	394/-
K0729.142	K0729.0142	C	43	78	17	6,5	58	542/-
K0729.148	K0729.0148	C	50	92	21	8	67	714/-
K0729.156	-	C	58	103	23	9,5	79	960
K0729.164	-	C	66	120	27	12	93	1269

Spherical washers

DIN 6319, 10/01



KIPP Conical seats Form D, DIN 6319, edition 10/01

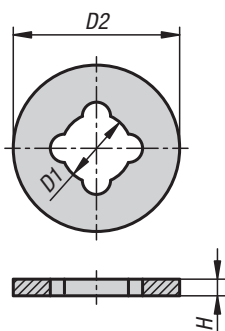
Order No. mild steel	Order No. stainless steel	Form	D1	D2	D5	H	H2	Load rating max. kN (static load only)
K0729.205	-	D	6	10,5	9,25	2,1	3,1	6,5
K0729.206	K0729.0206	D	7,1	12	11	2,8	4	9/6
K0729.208	K0729.0208	D	9,6	17	14,5	3,5	5,6	17/12
K0729.210	K0729.0210	D	12	21	18,5	4,2	6,3	26/16
K0729.212	K0729.0212	D	14,2	24	20	5	8	38/24
K0729.214	-	D	16,5	28	24,8	5,6	8,2	53
K0729.216	K0729.0216	D	19	30	26	6,2	9,3	73/45
K0729.220	K0729.0220	D	23,2	36	31	7,5	11,6	117/71
K0729.224	K0729.0224	D	28	44	37	9,5	15	168/105
K0729.230	K0729.0230	D	35	56	49	12	18,9	269/191
K0729.236	K0729.0236	D	42	68	60	15	23,3	394/-
K0729.242	K0729.0242	D	49	78	70	18	28,3	542/-
K0729.248	K0729.0248	D	56	92	82	22	35,2	714/-
K0729.256	-	D	65	103	92	25	39,7	960
K0729.264	-	D	75	120	110	30	46,5	1269

KIPP Conical seats Form G, DIN 6319 Edition 10/01

Order No. high carbon steel	Order No. stainless steel	Form	D1	D2	D5	H	H2	Load rating max. kN (static load only)
K0729.305	-	G	6	15	9,25	2,5	3,5	6,5
K0729.306	K0729.0306	G	7,1	17	11	4	5,2	9/6
K0729.308	K0729.0308	G	9,6	24	14,5	5	6,8	17/12
K0729.310	K0729.0310	G	12	30	18,5	5	7,1	26/16
K0729.312	K0729.0312	G	14,2	36	20	6	9	38/24
K0729.314	-	G	16,5	40	24,8	6	8,6	53
K0729.316	K0729.0316	G	19	44	26	7	10,1	73/45
K0729.320	K0729.0320	G	23,2	50	31	8	12	117/71
K0729.324	K0729.0324	G	28	60	37	10	15,5	168/105
K0729.330	K0729.0330	G	35	68	49	12	18,7	269/191
K0729.336	-	G	42	80	60	12	20,3	394

Washers plastic

captive



Material:
Polyamide

Version:
white

Sample order:
K1526.05

Note:
The washers are vibration dampers and protect the screw connection during e.g. pre-assembly. The washers also protect the surface from damage. Only suitable for threads with undercut i.e. ring bolts

Application:
Press or twist the washers over the thread.

Attention:
When shim washers with rings bolts are used, the forces specified for the ring bolts cannot be guaranteed.

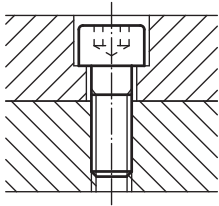
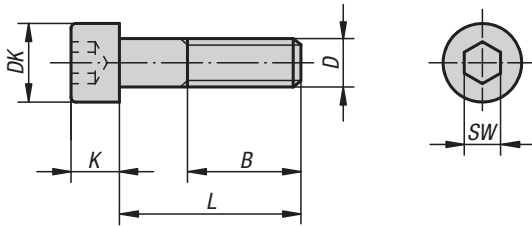


KIPP Captive washers, plastic

Order No.	D1	D2	G	H
K1526.05	4,3	10	M5	0,5
K1526.06	5,1	12	M6	0,5
K1526.08	6,2	14	M8	0,5
K1526.10	8,4	20	M10	1
K1526.12	9,8	20	M12	1
K1526.16	13,5	28	M16	1

Socket head screws

DIN 912 / DIN EN ISO 4762



Material:

Steel or stainless steel (A 2)

Version:

Steel grade 8.8, black or electro zinc-plated.
Steel grade 10.9, black or electro zinc-plated.
Stainless steel A 2-70, bright.

Sample order:

K0869.08X40 (include length L)

KIPP Socket head screws DIN 912 / EN ISO 4762, steel or stainless steel

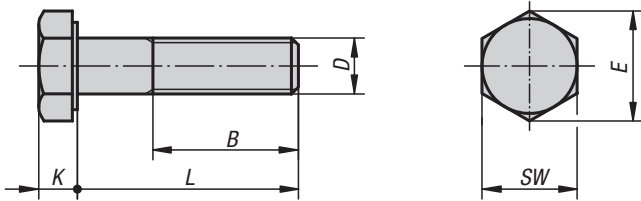
Order No. Grade 8.8 black	Order No. Grade 8.8	D	L	B	DK	K	SW
K0869.04X	K0869.404X	M4	10/12/16/18/20/25	20	7	4	3
K0869.05X	K0869.405X	M5	10/12/16/18/20/25/30/40	22	8,5	5	4
K0869.06X	K0869.406X	M6	10/12/16/18/20/25/30/35/40/45/50/55/60	24	10	6	5
K0869.08X	K0869.408X	M8	16/18/20/25/30/35/40/45/50/60/70/80	28	13	8	6
K0869.10X	K0869.410X	M10	16/18/20/25/30/35/40/45/50/60/70/80/90/100	32	16	10	8
K0869.12X	K0869.412X	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120	36	18	12	10
K0869.14X	K0869.414X	M14	50/80/120	40	21	14	12
K0869.16X	K0869.416X	M16	30/35/40/45/50/60/70/80/90/100/110/120	44	24	16	14
K0869.20X	K0869.420X	M20	40/45/50/60/70/80/90/100/110/120	52	30	20	17

Order No.	Grade	Main colour	D	L	B	DK	K	SW
K0869.304X	10.9	black	M4	10/12/16/18/20/25/10/12/16/18/20/25	20	7	4	3
K0869.305X	10.9	black	M5	10/12/16/18/20/25/30/40/10/12/16/18/20/25/30/40	22	8,5	5	4
K0869.306X	10.9	black	M6	10/12/16/18/20/25/30/35/40/55/45/50/60/10/12/16/18/20/25/30/35/40/45/50/55/60	24	10	6	5
K0869.308X	10.9	black	M8	16/18/20/25/30/35/40/45/50/60/70/80/16/20/25/30/35/40/45/50/60/70/80	28	13	8	6
K0869.310X	10.9	black	M10	16/18/20/25/30/35/40/45/50/60/70/80/90/100/16/18/20/25/30/35/40/45/50/60/70/80/90/100	32	16	10	8
K0869.312X	10.9	black	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120/20/25/30/35/40/45/50/60/70/80/90/100/110/120	36	18	12	10
K0869.314X	10.9	black	M14	50/80/120/50/80/120	40	21	14	12
K0869.316X	10.9	black	M16	30/35/40/45/50/60/70/80/90/100/110/120/30/35/40/45/50/60/70/80/90/100/110/120	44	24	16	14
K0869.320X	10.9	black	M20	40/45/50/60/70/80/90/100/110/120/40/45/50/60/70/80/90/100/110/120	52	30	20	17

Order No.	Main material	D	L	B	DK	K	SW
K0869.104X	stainless steel	M4	10/12/16/18/20/25	20	7	4	3
K0869.105X	stainless steel	M5	10/12/16/18/20/25/30/40	22	8,5	5	4
K0869.106X	stainless steel	M6	10/12/16/18/20/25/30/35/40/45/50/60/55	24	10	6	5
K0869.108X	stainless steel	M8	16/18/20/25/30/35/40/45/50/60/70/80	28	13	8	6
K0869.110X	stainless steel	M10	18/16/20/25/30/35/40/45/50/60/70/80/90/100	32	16	10	8
K0869.112X	stainless steel	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120	36	18	12	10

Hexagon head bolts

DIN EN ISO 4014 / DIN EN 24014



Material:

Steel or stainless steel (A 2)

Version:

Steel grade 8.8, black or electro zinc-plated.
 Steel grade 10.9, black or electro zinc-plated.
 Steel grade 12.9, black.
 Stainless steel A 2-70, bright.

Sample order:

K0870.110X50 (include length L)

On request:

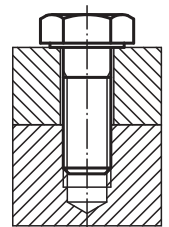
DIN ISO 272 spanner sizes.

KIPP Hexagon head bolts DIN 931/DIN EN ISO 4014/DIN EN 24014

Order No. steel Grade 8.8	Order No. steel Grade 10.9	Main colour	D	B	E	K	L	SW
K0870.04X	-	black	M4	14	7,66	2,8	25/30/35/40/45/50	7
K0870.05X	-	black	M5	16	8,79	3,5	25/30/35/40/45/50/60	8
K0870.06X	K0870.306X	black	M6	18	11,05	4	30/35/40/45/50/60/70	10
K0870.08X	K0870.308X	black	M8	22	14,38	5,3	35/40/45/50/60/70/80	13
K0870.10X	K0870.310X	black	M10	26	18,9	6,4	40/45/50/60/70/80/90/100	17
K0870.12X	K0870.312X	black	M12	30	21,1	7,5	45/50/60/70/80/90/100/110/120	19
K0870.16X	K0870.316X	black	M16	38	26,75	10	60/70/80/90/100/110/120	24
K0870.20X	K0870.320X	black	M20	46	33,53	12,5	70/80/90/100/110/120	30
K0870.404X	-	galvanised	M4	14	7,66	2,8	25/30/35/40/45/50	7
K0870.405X	-	galvanised	M5	16	8,79	3,5	25/30/35/40/45/50/60	8
K0870.406X	K0870.506X	galvanised	M6	18	11,05	4	30/35/40/45/50/60/70	10
K0870.408X	K0870.508X	galvanised	M8	22	14,38	5,3	35/40/45/50/60/70/80	13
K0870.410X	K0870.510X	galvanised	M10	26	18,9	6,4	40/45/50/60/70/80/90/100	17
K0870.412X	K0870.512X	galvanised	M12	30	21,1	7,5	45/50/60/70/80/90/100/110/120	19
K0870.416X	K0870.516X	galvanised	M16	38	26,75	10	60/70/80/90/100/110/120	24
K0870.420X	K0870.520X	galvanised	M20	46	33,53	12,5	70/80/90/100/110/120	30

Hexagon head bolts

DIN EN ISO 4014 / DIN EN 24014

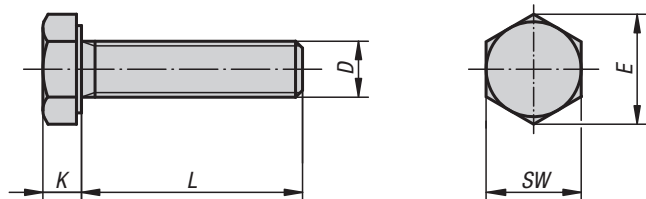


Order No.	Main material	Grade	D	B	E	K	L	SW
K0870.210X	steel	12.9	M10	26	18,9	6,4	40/45/50/60/70/80/90/100	17
K0870.212X	steel	12.9	M12	30	21,1	7,5	45/50/60/70/80/90/100/120	19
K0870.216X	steel	12.9	M16	38	26,75	10	60/70/80/90/100/120	24
K0870.220X	steel	12.9	M20	46	33,53	12,5	70/80/90/100/120	30

Order No.	Main material	D	B	E	K	L	SW
K0870.105X	stainless steel	M5	16	8,79	3,5	25/30/35/40/45/50/60	8
K0870.106X	stainless steel	M6	18	11,05	4	30/35/40/45/50/60/70	10
K0870.108X	stainless steel	M8	22	14,38	5,3	35/40/45/50/60/70/80	13
K0870.110X	stainless steel	M10	26	18,9	6,4	40/45/50/60/70/80/90/100	17
K0870.112X	stainless steel	M12	30	21,1	7,5	45/50/60/70/80/90/100/110/120	19
K0870.116X	stainless steel	M16	38	26,75	10	60/70/80/90/100/110/120	24

Hexagon head bolts

full thread DIN 933



Material:

Steel or stainless steel (A 2)

Version:

Steel grade 8.8, black or electro zinc-plated.
 Steel grade 10.9, black or electro zinc-plated.
 Steel grade 12.9, black.
 Stainless steel A 2-70, bright.

Sample order:

K0871.05X40 (include length L)

KIPP Hexagon head bolts DIN 933

Order No. steel Grade 8.8	Order No. steel Grade 10.9	Main colour	D	E	K	L	SW
K0871.04X	-	black	M4	7,66	2,8	10/12/16/18/20/25	7
K0871.05X	-	black	M5	8,79	3,5	10/12/16/18/20/25/30/35/40	8
K0871.06X	K0871.306X	black	M6	11,05	4	10/12/16/18/20/25/30/35/40/45/50/55/60	10
K0871.08X	K0871.308X	black	M8	14,38	5,3	16/18/20/25/30/35/40/45/50/60/70/80/90/100	13
K0871.10X	K0871.310X	black	M10	18,9	6,4	16/18/20/25/30/35/40/45/50/60/70/80/90/100	17
K0871.12X	K0871.312X	black	M12	21,1	7,5	20/25/30/35/40/45/50/60/70/80/90/100/110/120	19
K0871.14X	-	black	M14	24,49	8,8	30/35/40/45/50/60/70/80/90/100/110/120	22
K0871.16X	K0871.316X	black	M16	26,75	10	30/35/40/45/50/60/70/80/90/100/110/120	24
K0871.20X	K0871.320X	black	M20	33,53	12,5	40/45/50/60/70/80/90/100/110/120	30
K0871.404X	-	-	M4	7,66	2,8	10/12/16/18/20/25	7
K0871.405X	-	-	M5	8,79	3,5	10/12/16/18/20/25/30/35/40	8
K0871.406X	K0871.506X	-	M6	11,05	4	10/12/16/18/20/25/30/35/40/45/50/55/60	10
K0871.408X	K0871.508X	-	M8	14,38	5,3	16/18/20/25/30/35/40/45/50/60/70/80/90/100	13
K0871.410X	K0871.510X	-	M10	18,9	6,4	16/18/20/25/30/35/40/45/50/60/70/80/90/100	17
K0871.412X	K0871.512X	-	M12	21,1	7,5	20/25/30/35/40/45/50/60/70/80/90/100/110/120	19
K0871.414X	-	-	M14	24,49	8,8	30/35/40/45/50/60/70/80/90/100/110/120	22
K0871.416X	K0871.516X	-	M16	26,75	10	30/35/40/45/50/60/70/80/90/100/110/120	24
K0871.420X	K0871.520X	-	M20	33,53	12,5	40/45/50/60/70/80/90/100/110/120	30

Hexagon head bolts

full thread DIN 933

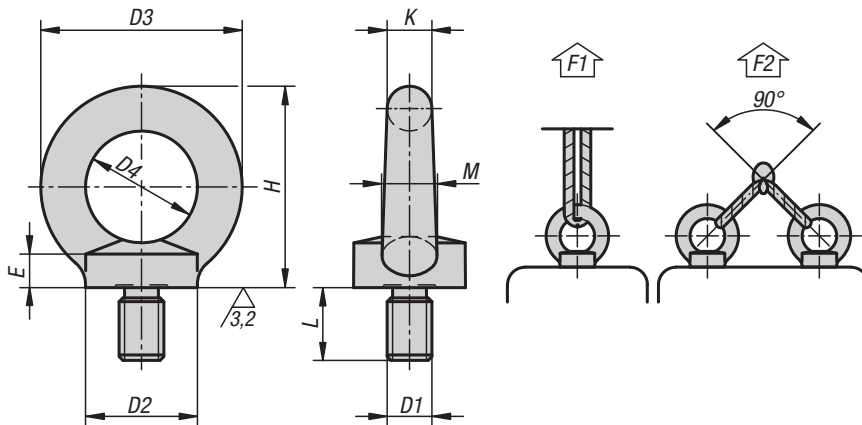


Order No.	Main material	Grade	D	E	K	L	SW
K0871.206X	steel	12.9	M6	11,05	4	12/16/20/25/30	10
K0871.208X	steel	12.9	M8	14,38	5,3	16/20/25/30/35/40/45/50/60	13
K0871.210X	steel	12.9	M10	18,9	6,4	20/25/30/35/40/45/50/60	17
K0871.212X	steel	12.9	M12	21,1	7,5	25/30/35/40/45/50/60	19
K0871.216X	steel	12.9	M16	26,75	10	30/35/40/45/50/60/70/80/90/100	24
K0871.220X	steel	12.9	M20	33,53	12,5	40/45/50/60/70/80/90/100	30

Order No.	Main material	D	E	K	L	SW
K0871.104X	stainless steel	M4	7,66	2,8	10/12/16/18/20/25	7
K0871.105X	stainless steel	M5	8,79	3,5	10/12/16/18/20/25/30/35/40	8
K0871.106X	stainless steel	M6	11,05	4	10/12/16/18/20/25/30/35/40/45/50/55/60	10
K0871.108X	stainless steel	M8	14,38	5,3	16/18/20/25/30/35/40/45/50/60/70/80/90/100	13
K0871.110X	stainless steel	M10	18,9	6,4	16/18/20/25/30/35/40/45/50/60/70/80/90/100	17
K0871.112X	stainless steel	M12	21,1	7,5	20/25/30/35/40/45/50/60/70/80/90/100/110/120	19
K0871.116X	stainless steel	M16	26,75	10	30/35/40/45/50/60/70/80/90/100/110/120	24
K0871.120X	stainless steel	M20	33,53	12,5	40/45/50/60/70/80/90/100/110/120	30

Ring bolts

DIN 580



Material:

1.1141 steel, 1.4301 stainless steel or 1.4401 stainless steel.

Version:

drop forged.

Sample order:

K0767.20

Note:

For high demand hoisting and carrying tasks in safety-relevant areas (machine construction, load handling equipment, lifting tackle).

The CE mark is impressed into the ring bolt.

F2 permissible load under max. 45° per ring bolt.

On request:

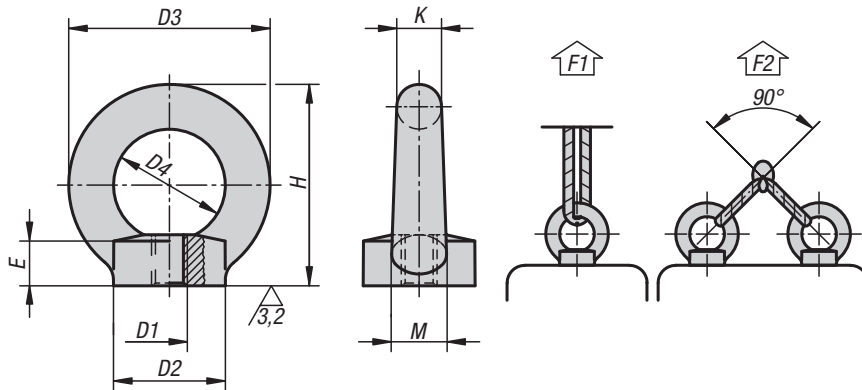
Certificate of conformity.

KIPP Ring bolts DIN 580

Order No. steel 1.1141	Order No. stainless steel 1.4301	Order No. stainless steel 1.4401	D1	L	D2	D3	D4	E	H	K	M	F1 max. kN	F2 max. kN	Permissible load kg
K0767.08	K0767.108	K0767.208	M8	13	20	36	20	6	36	8	10	1,4	0,95	96,9
K0767.10	K0767.110	K0767.210	M10	17	25	45	25	8	45	10	12	2,3	1,7	173,4
K0767.12	K0767.112	K0767.212	M12	20,5	30	54	30	10	53	12	14	3,4	2,4	244,8
K0767.16	K0767.116	K0767.216	M16	27	35	63	35	12	62	14	16	7	5	510
K0767.20	K0767.120	K0767.220	M20	30	40	72	40	14	71	16	19	12	8,3	846,6
K0767.24	K0767.124	K0767.224	M24	36	50	90	50	18	90	20	24	18	12,7	1295,4

Ring nuts

DIN 582



Material:

1.1141 steel, 1.4301 stainless steel or 1.4401 stainless steel.

Version:

drop forged.

Sample order:

K0768.10

Note:

For high demand hoisting and carrying tasks in safety-relevant areas (machine construction, load handling equipment, lifting tackle).

The CE mark is impressed into the ring bolt.

F2 permissible load under max. 45° per ring bolt.

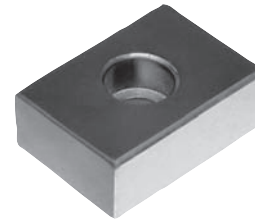
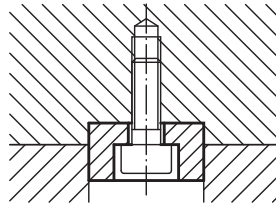
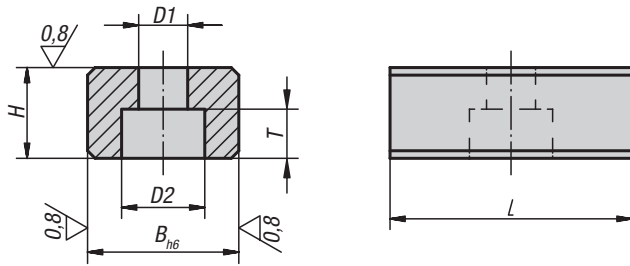
On request:

Certificate of conformity.

KIPP Ring nuts DIN 582

Order No. steel 1.1141	Order No. stainless steel 1.4301	Order No. stainless steel 1.4401	D1	D2	D3	D4	E	H	K	M	F1 max. kN	F2 max. kN	Permissible load kg
K0768.08	K0768.108	K0768.208	M8	20	36	20	8,5	36	8	10	1,4	0,95	96,9
K0768.10	K0768.110	K0768.210	M10	25	45	25	10	45	10	12	2,3	1,7	173,4
K0768.12	K0768.112	K0768.212	M12	30	54	30	11	53	12	14	3,4	2,4	244,8
K0768.16	K0768.116	K0768.216	M16	35	63	35	13	62	14	16	7	5	510
K0768.20	K0768.120	K0768.220	M20	40	72	40	16	71	16	19	12	8,3	846,6
K0768.24	K0768.124	K0768.224	M24	50	90	50	20	90	20	24	18	12,7	1295,4

Slot keys



Material:
Steel.

Version:
Case-hardened, black oxidised and ground.

Sample order:
K0864.16

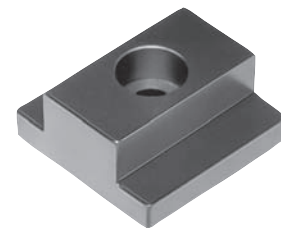
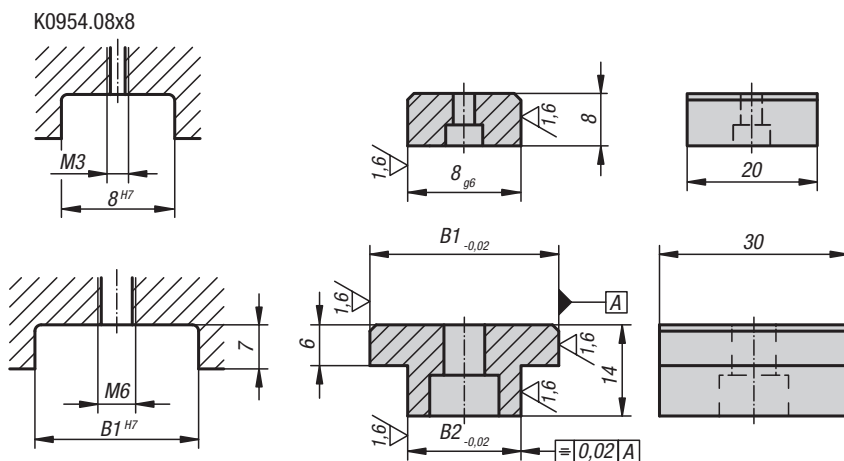
Note:
Slot keys are used to align fixtures and clamps on machine tables with DIN 650 T-slots. They are screwed into the fixture alignment slots. Slot keys are only used when the fixture and machine table have the same slot width.

KIPP Slot keys

Order No.	B	H	L	D1	D2	T	for screws DIN 84 or 912
K0864.10	10	8	20	4,5	8	4,3	M4x10
K0864.12	12	8	20	5,5	10	5,3	M5x12
K0864.14	14	10	22	6,6	11	6,3	M6x16
K0864.16	16	10	22	6,6	11	6,3	M6x16
K0864.18	18	10	22	6,6	11	6,3	M6x16
K0864.20	20	10	22	6,6	11	6,3	M6x16
K0864.22	22	12	32	6,6	11	6,3	M6x16

K0954

T-slot keys



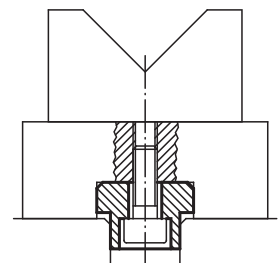
Material:
Carbon steel 1.1191

Version:
Black oxidised.

Sample order:
K0954.08X8 (include dimension B1)

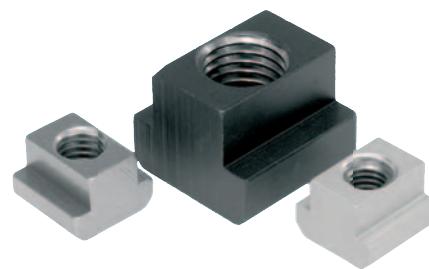
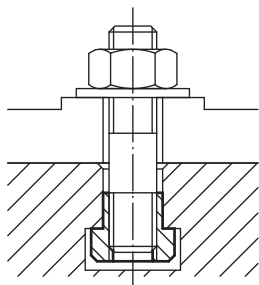
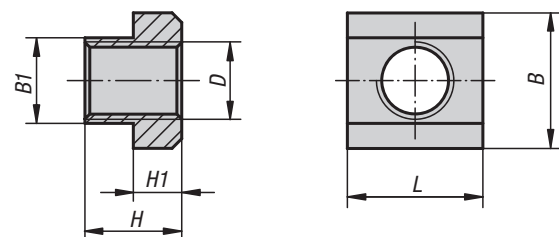
KIPP T-slot keys

Order No.	B1	B2
K0954.08X	8	8
K0954.12X	20/22/30	12
K0954.14X	20/22/30	14
K0954.16X	20/22/30	16
K0954.18X	20/22/30	18
K0954.22X	20/22/30	22



Nuts for T-slots

DIN 508 enhanced



Material:

Carbon steel grade 10, EN AW-7075 or stainless steel 1.4305.

Version:

Steel black.
Aluminium and stainless steel bright.

Sample order:

K0377.20

Note:

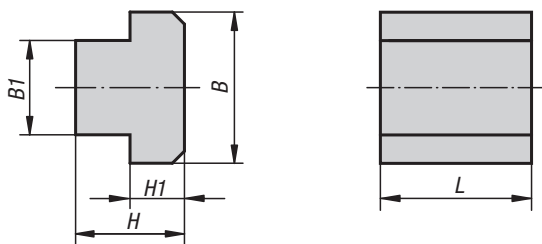
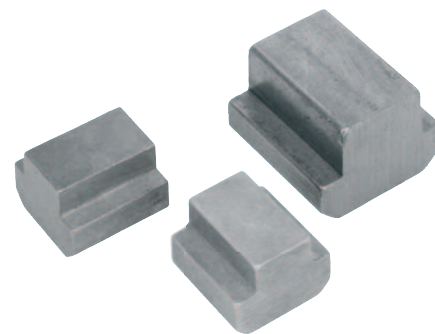
Nuts for T-slots in aluminium have threaded steel inserts.

KIPP Nuts for T-slots to DIN 508 enhanced

Order No. aluminium	Order No. high carbon steel	Order No. stainless steel	Slot width	D	A	E	H	K
K0377.204	K0377.05	-	6	M4/M5	5,6	10	8	4
K0377.206	K0377.06	K0377.806	8	M6	7,6	13	10	6
K0377.2061	K0377.061	-	10	M6	9,6	15	12	6
-	K0377.082	-	14	M8	13,6	22	16	8
K0377.208	K0377.081	-	12	M8	11,6	18	14	7
-	K0377.08	K0377.808	10	M8	9,6	15	12	6
-	K0377.10	K0377.810	12	M10	11,6	18	14	7
K0377.210	K0377.101	-	14	M10	13,6	22	16	8
-	K0377.123	-	20	M12	19,6	32	24	12
-	K0377.12	K0377.812	14	M12	13,6	22	16	8
-	K0377.121	-	16	M12	15,6	25	18	9
-	K0377.122	-	18	M12	17,6	28	20	10
-	K0377.14	K0377.814	16	M14	15,6	25	18	9
-	K0377.141	-	18	M14	17,6	28	20	10
-	K0377.164	-	28	M16	27,6	44	36	18
-	K0377.161	-	20	M16	19,6	32	24	12
-	K0377.16	K0377.816	18	M16	17,6	28	20	10
K0377.216	K0377.124	-	22	M16/M12	21,6	35	28	14
-	K0377.163	-	24	M16	23,6	40	32	16
-	K0377.181	-	22	M18	21,6	35	28	14
-	K0377.18	-	20	M18	19,6	32	24	12
-	K0377.20	-	22	M20	21,6	35	28	14
-	K0377.201	-	24	M20	23,6	40	32	16
-	K0377.202	-	28	M20	27,6	44	36	18
-	K0377.22	-	24	M22	23,6	40	32	16
-	K0377.24	-	28	M24	27,6	44	36	18
-	K0377.241	-	36	M24	35,5	54	44	22
-	K0377.27	-	32	M27	31,5	50	40	20
-	K0377.30	-	36	M30	35,5	54	44	22
-	K0377.36	-	42	M36	41,5	65	52	26

Nuts for T-slots

blanks



Material:

High carbon steel or stainless steel 1.4305.

Sample order:

K0378.16

Note:

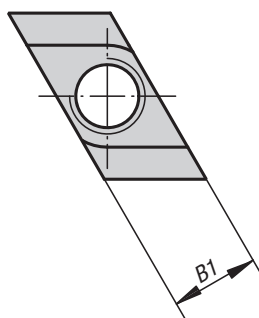
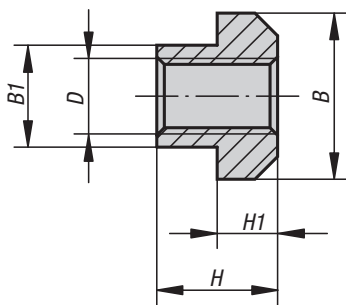
These blank nuts are used to make nuts for T-slots with all sorts of thread sizes cost-effectively.

KIPP Nuts for T-slots, blanks

Order No. high carbon steel	Order No. stainless steel	Slot width	A	E	H	K
K0378.06	-	6	5,6	10	8	4
K0378.08	K0378.808	8	7,6	13	10	6
K0378.10	K0378.810	10	9,6	15	12	6
K0378.12	K0378.812	12	11,5	18	14	7
K0378.14	K0378.814	14	13,5	22	16	8
K0378.16	-	16	15,6	25	18	9
K0378.18	-	18	17,5	28	20	10
K0378.20	-	20	19,6	32	24	12
K0378.22	-	22	21,6	35	28	14
K0378.24	-	24	23,6	40	32	16
K0378.28	-	28	27,6	44	36	18
K0378.36	-	36	35,5	54	44	22
K0378.42	-	42	41,6	65	52	26

Nuts for T-slots

rhombic form



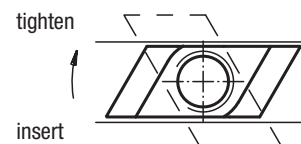
Material:
Carbon steel.

Version:
Tempered to 8 and black oxidised.

Sample order:
K0379.114

Note:
The benefit of rhombic nuts for T-slots is that they can be fitted in the slot from the top. They are particularly useful for long T-slots, or when the configuration on the machine table does not permit clamping screws or nuts for T-slots to be inserted from the side.

Application:
Insert from above then twist in the slot until it stops.

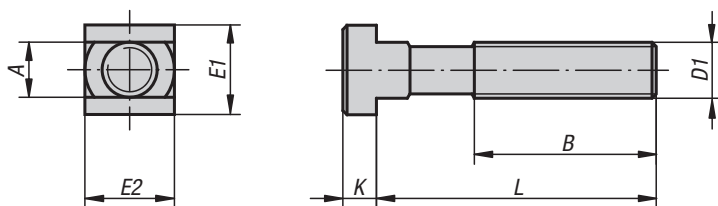


KIPP Nuts for T-slots, rhombic form

Order No.	Slot width	D	A	E	H	K
K0379.105	6	M5	5,6	10	8	4
K0379.106	8	M6	7,6	13	10	6
K0379.108	10	M8	9,7	15	12	6
K0379.110	12	M10	11,7	18	14	7
K0379.210	14	M10	13,5	22	16	8
K0379.310	18	M10	17,5	28	20	10
K0379.112	14	M12	13,7	22	16	8
K0379.114	16	M14	15,7	25	18	9
K0379.116	18	M16	17,7	28	20	10
K0379.216	20	M16	19,7	32	24	12
K0379.316	22	M16	21,5	35	28	14
K0379.416	28	M16	27,5	44	36	18
K0379.118	20	M18	19,7	32	24	12
K0379.120	22	M20	21,7	35	28	14
K0379.124	28	M24	27,7	44	36	18
K0379.130	36	M30	35,6	54	44	22
K0379.136	42	M36	41,5	65	52	26

T-slot bolts

DIN 787



KIPP T-slot bolts DIN 787

Order No.	Slot width	D1	L	A	B	E1/E2	K
K0698.0625	6	M6	25	5,7	15	10	4
K0698.0640	6	M6	40	5,7	28	10	4
K0698.0663	6	M6	63	5,7	40	10	4
K0698.0832	8	M8	32	7,7	22	13	6
K0698.0850	8	M8	50	7,7	35	13	6
K0698.0880	8	M8	80	7,7	50	13	6
K0698.1040	10	M10	40	9,7	30	15	6
K0698.1063	10	M10	63	9,7	45	15	6
K0698.10100	10	M10	100	9,7	60	15	6
K0698.1250	12	M12	50	11,7	35	18	7
K0698.1263	12	M12	63	11,7	40	18	7
K0698.1280	12	M12	80	11,7	55	18	7
K0698.12100	12	M12	100	11,7	65	18	7
K0698.12125	12	M12	125	11,7	75	18	7
K0698.12160	12	M12	160	11,7	100	18	7
K0698.12200	12	M12	200	11,7	120	18	7
K0698.1450	14	M12	50	13,7	35	22	8
K0698.1463	14	M12	63	13,7	45	22	8
K0698.1480	14	M12	80	13,7	55	22	8
K0698.14100	14	M12	100	13,7	65	22	8
K0698.14125	14	M12	125	13,7	75	22	8
K0698.14160	14	M12	160	13,7	100	22	8
K0698.14200	14	M12	200	13,7	120	22	8
K0698.16631	16	M14	63	15,7	45	25	9
K0698.16801	16	M14	80	15,7	55	25	9
K0698.161001	16	M14	100	15,7	65	25	9
K0698.161251	16	M14	125	15,7	75	25	9
K0698.161601	16	M14	160	15,7	100	25	9
K0698.162501	16	M14	250	15,7	150	25	9
K0698.1663	16	M16	63	15,7	45	25	9
K0698.1680	16	M16	80	15,7	55	25	9
K0698.16100	16	M16	100	15,7	65	25	9
K0698.16125	16	M16	125	15,7	85	25	9
K0698.16160	16	M16	160	15,7	100	25	9
K0698.16200	16	M16	200	15,7	125	25	9
K0698.16250	16	M16	250	15,7	150	25	9
K0698.1863	18	M16	63	17,7	45	28	10

Material:

Carbon steel.

Version:

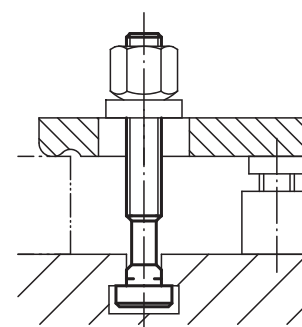
Forged and milled, rolled thread.

M6-M12 tempered to 10.9, black.

M14-M36 tempered to 8.8, black.

Sample order:

K0698.1263



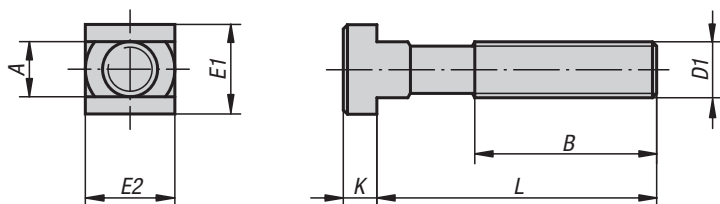
T-slot bolts

DIN 787

Order No.	Slot width	D1	L	A	B	E1/E2	K
K0698.1880	18	M16	80	17,7	55	28	10
K0698.18100	18	M16	100	17,7	65	28	10
K0698.18125	18	M16	125	17,7	85	28	10
K0698.18160	18	M16	160	17,7	100	28	10
K0698.18200	18	M16	200	17,7	125	28	10
K0698.18250	18	M16	250	17,7	150	28	10
K0698.2080	20	M20	80	19,7	55	32	12
K0698.20100	20	M20	100	19,7	65	32	12
K0698.20125	20	M20	125	19,7	85	32	12
K0698.20160	20	M20	160	19,7	110	32	12
K0698.20200	20	M20	200	19,7	125	32	12
K0698.20250	20	M20	250	19,7	150	32	12
K0698.20315	20	M20	315	19,7	190	32	12
K0698.2280	22	M20	80	21,7	55	35	14
K0698.22100	22	M20	100	21,7	65	35	14
K0698.22125	22	M20	125	21,7	85	35	14
K0698.22160	22	M20	160	21,7	110	35	14
K0698.22200	22	M20	200	21,7	125	35	14
K0698.22250	22	M20	250	21,7	150	35	14
K0698.22315	22	M20	315	21,7	190	35	14
K0698.24100	24	M24	100	23,7	70	40	16
K0698.24125	24	M24	125	23,7	85	40	16
K0698.24160	24	M24	160	23,7	110	40	16
K0698.24200	24	M24	200	23,7	125	40	16
K0698.24250	24	M24	250	23,7	150	40	16
K0698.24315	24	M24	315	23,7	190	40	16
K0698.24400	24	M24	400	23,7	240	40	16
K0698.28100	28	M24	100	27,7	70	44	18
K0698.28125	28	M24	125	27,7	85	44	18
K0698.28160	28	M24	160	27,7	110	44	18
K0698.28200	28	M24	200	27,7	125	44	18
K0698.28250	28	M24	250	27,7	150	44	18
K0698.28315	28	M24	315	27,7	190	44	18
K0698.28400	28	M24	400	27,7	240	44	18
K0698.36125	36	M30	125	35,6	80	54	22
K0698.36160	36	M30	160	35,6	110	54	22
K0698.36200	36	M30	200	35,6	135	54	22
K0698.36250	36	M30	250	35,6	150	54	22
K0698.36315	36	M30	315	35,6	200	54	22
K0698.36500	36	M30	500	35,6	300	54	22
K0698.42160	42	M36	160	41,6	100	65	26
K0698.42250	42	M36	250	41,6	175	65	26
K0698.42400	42	M36	400	41,6	250	65	26

T-slot bolts

DIN 787, 12.9



KIPP T-slot bolts DIN 787, 12.9

Order No.	Slot width	D1	L	A	B	E1/E2	K
K0699.11250	12	M12	50	11,7	35	18	7
K0699.11280	12	M12	80	11,7	55	18	7
K0699.112100	12	M12	100	11,7	65	18	7
K0699.112125	12	M12	125	11,7	75	18	7
K0699.112160	12	M12	160	11,7	100	18	7
K0699.112200	12	M12	200	11,7	120	18	7
K0699.11450	14	M12	50	13,7	35	22	8
K0699.11480	14	M12	80	13,7	55	22	8
K0699.114100	14	M12	100	13,7	65	22	8
K0699.114125	14	M12	125	13,7	75	22	8
K0699.114160	14	M12	160	13,7	100	22	8
K0699.114200	14	M12	200	13,7	120	22	8
K0699.11663	16	M16	63	15,7	45	25	9
K0699.116100	16	M16	100	15,7	65	25	9
K0699.116125	16	M16	125	15,7	85	25	9
K0699.116160	16	M16	160	15,7	100	25	9
K0699.116250	16	M16	250	15,7	150	25	9
K0699.11863	18	M16	63	17,7	45	28	10
K0699.118100	18	M16	100	17,7	65	28	10
K0699.118125	18	M16	125	17,7	85	28	10
K0699.118160	18	M16	160	17,7	100	28	10
K0699.118250	18	M16	250	17,7	150	28	10
K0699.12080	20	M20	80	19,7	55	32	12
K0699.120125	20	M20	125	19,7	85	32	12
K0699.120200	20	M20	200	19,7	125	32	12
K0699.120315	20	M20	315	19,7	190	32	12
K0699.12280	22	M20	80	21,7	55	35	14
K0699.122125	22	M20	125	21,7	85	35	14
K0699.122200	22	M20	200	21,7	125	35	14
K0699.122315	22	M20	315	21,7	190	35	14
K0699.124100	24	M24	100	23,7	70	40	16
K0699.124160	24	M24	160	23,7	110	40	16
K0699.124250	24	M24	250	23,7	150	40	16
K0699.124400	24	M24	400	23,7	240	40	16
K0699.128100	28	M24	100	27,7	70	44	18
K0699.128160	28	M24	160	27,7	110	44	18
K0699.128250	28	M24	250	27,7	150	44	18
K0699.128400	28	M24	400	27,7	240	44	18

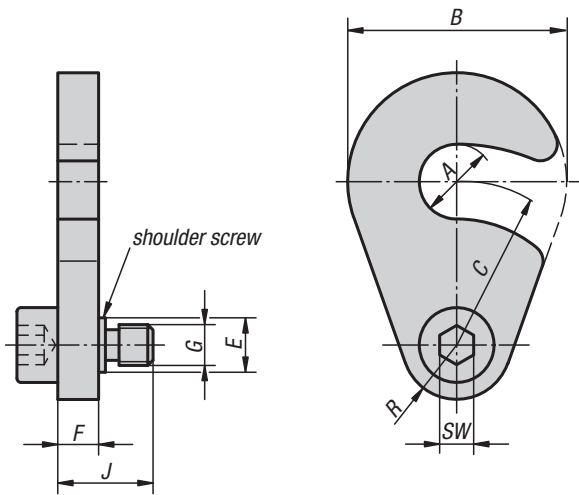
Material:
Carbon steel.

Version:
Forged and milled, rolled thread, tempered to 12.9, black.

Sample order:
K0699.112125

C-washers

captive, with shoulder screw



Material, version:

Swing C-washer case-hardened steel, black oxidised.
Shoulder screw tempered steel, black oxidised.

Sample order:

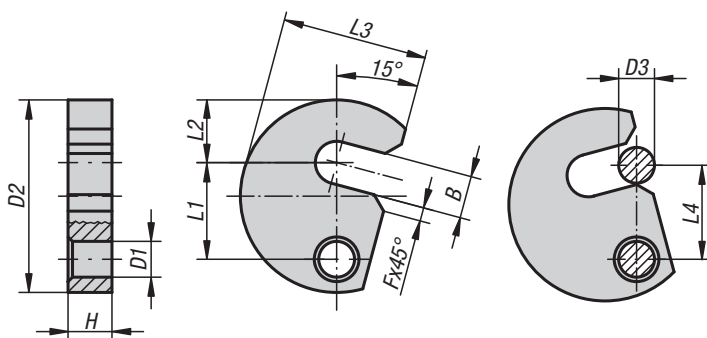
K0872.90010

KIPP C-washers, captive, with shoulder screw

Order No.	B	C	D	E	F	G	SW	J
K0872.90010	32	24	8	8	6	M6	5	14
K0872.90012	40	27	10	10	8	M8	6	19
K0872.90016	50	33	10	10	8	M8	6	19

C-washers captive

DIN 6371



Material:

Carbon steel 1.0760.

Version:

Nitrided and black oxidised.

Sample order:

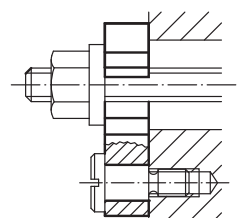
K0703.12

Note:

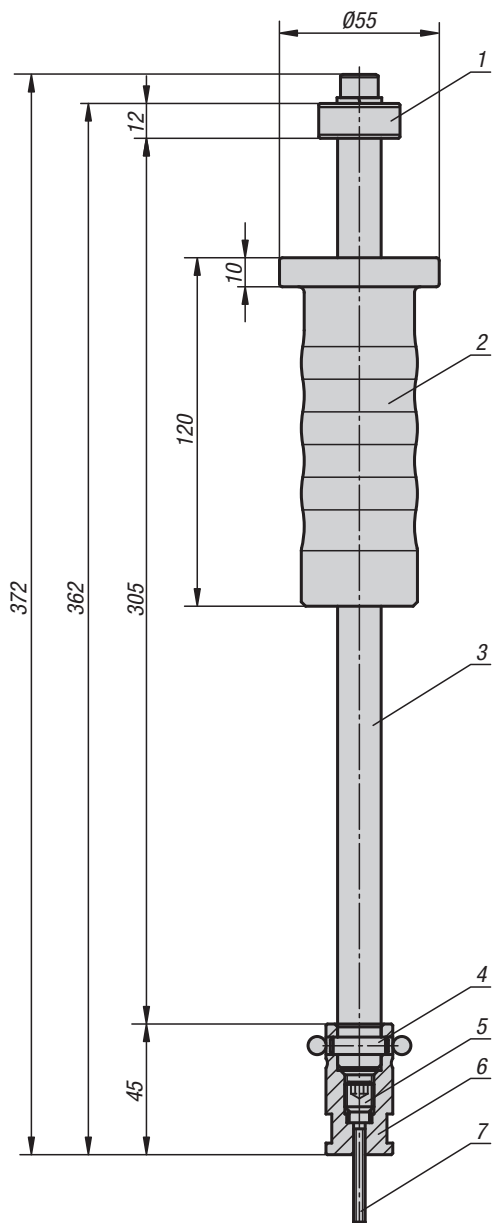
K0703.14 is not standard. Suitable shoulder screws see K0704.

KIPP C-washers captive DIN 6371

Order No.	B	D1	D2	D3	F	H	L1	L2	L3	L4
K0703.06	7,5	9	38	6	3	9,8	19,6	11	29	19
K0703.08	9,5	9	43	8	3	9,8	21,6	14	32,5	21
K0703.10	11,5	9	48	10	3	9,8	23,6	17	36,5	23
K0703.12	13,5	11	61	12	3	11,8	29,6	22	45	29
K0703.14	15,5	11	65	14	3	11,8	31,6	23	49	31
K0703.16	17,5	11	68	16	3	11,8	33,6	25	50	33
K0703.20	21,5	11	74	20	4	11,8	36,6	28	55	36



Dowel pin puller

**Material:**

Hammer head carbon steel.
Shaft, stop and guide sleeves tool steel.

Version:

Slide hammer tempered and chromed.
Shaft, stop and guide sleeve hardened and chromed.

Sample order:

K0873.40

Note:

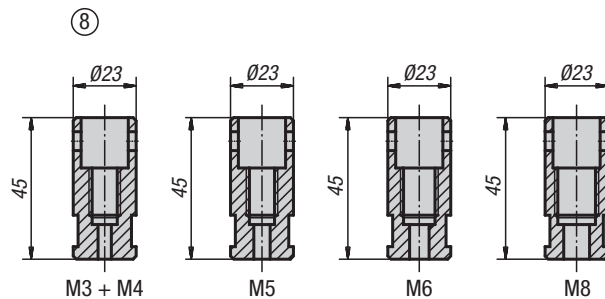
These extractors are used to remove locating pins and centring pins (K0817, K0818, K0350, K0351) with M3 - M8 tapped holes.

Accessories:

Storage case for guide sleeves.

Drawing reference:

- 1) stop
- 2) slide hammer
- 3) shaft
- 4) cross pin
- 5) lock screw
- 6) guide sleeve
- 7) cap screw
- 8) 1 set guide sleeves



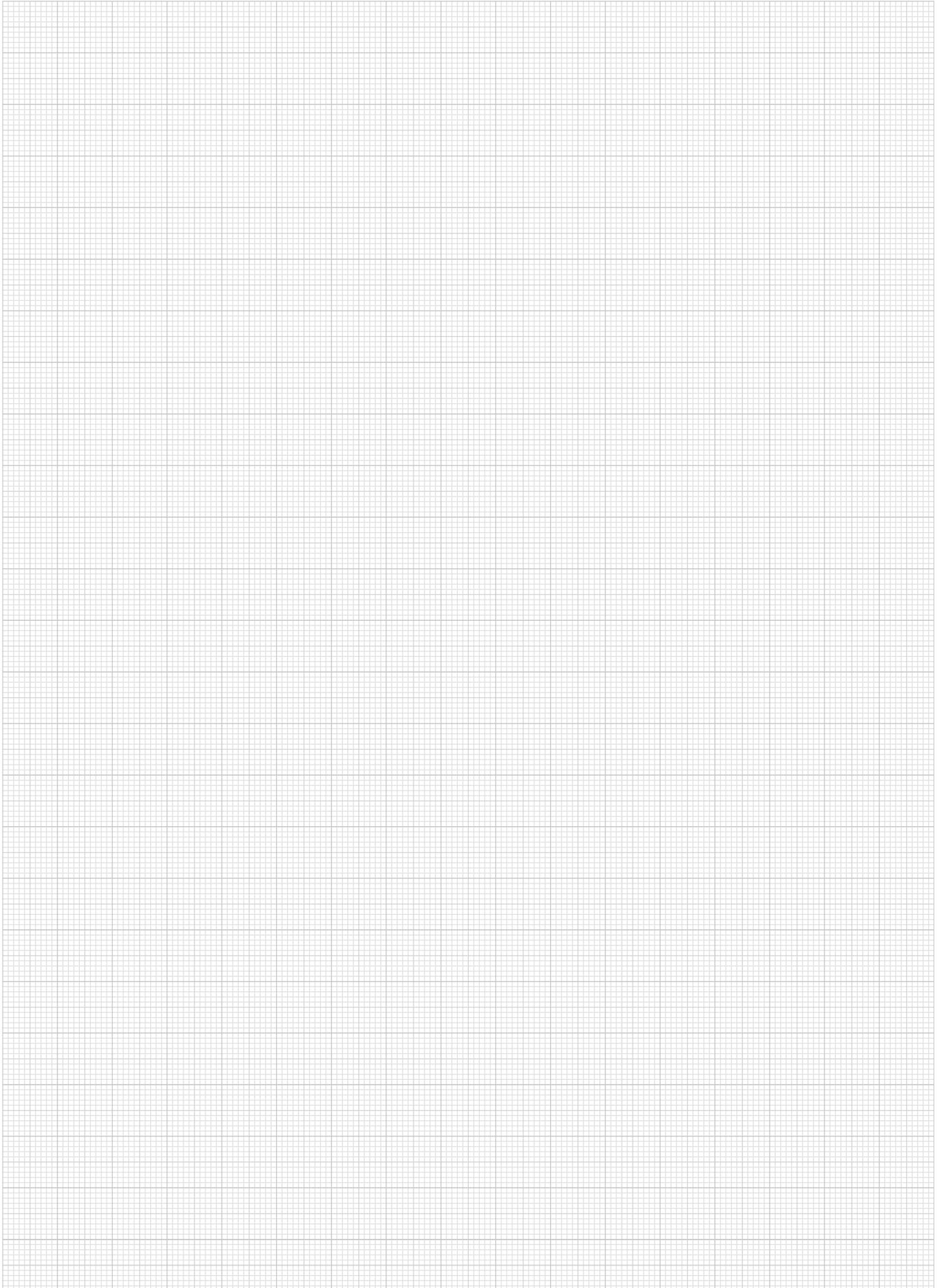
KIPP Dowel pin puller

Order No.

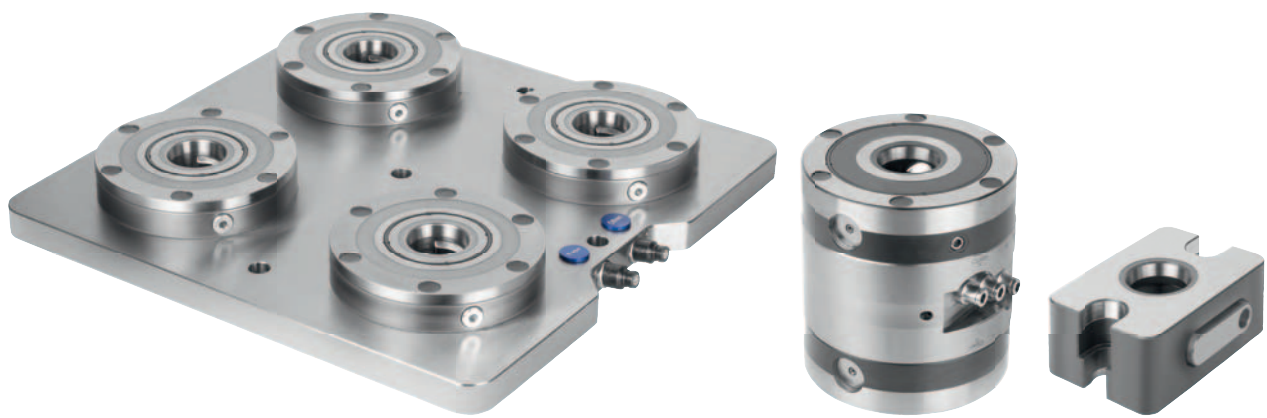
Dimensions

K0873.40

see drawing



Zero-point clamping system



Technical information zero-point clamping system



Application

The modular structured flexible zero-point clamping system was specifically developed for the machining and non-machining fields. This system enables a quick and accurate clamping and referencing of fixtures and workpieces on all production machines, machining centres, EDM's and inspection equipment. Whether subplate, fixture, vice or workpiece, this system allows an exchange with a defined reference point in a matter of seconds and repeat accuracy of less than 0.005 mm.

The advantages

- Modular system
- Compact flat design
- Workpiece or fixture change within seconds
- Pneumatic system
- Positive locking
- Holding forces up to 75 KN and pull-in forces up to 25 KN
- Turbo function
- Positioning via short conical locator
- Works reliably in every mounting position
- Sealing air function

Your benefit

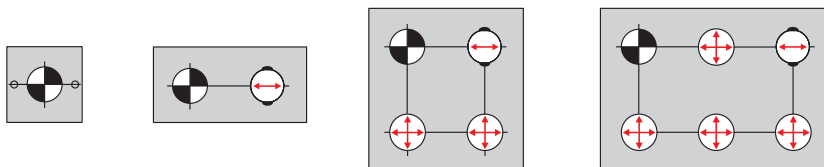
- Can be combined with our modular clamping system
- Better machine room utilisation
- Increased productive machine running times, significantly reduced set-up times
- Reliable system
- Very high cutting forces possible
- High operating and process safety
- Increased pull-in forces are standard
- Very high repeat accuracy
- Clamping cylinder installation in both vertical and horizontal positions
- Blow out function can be activated when changing pallets



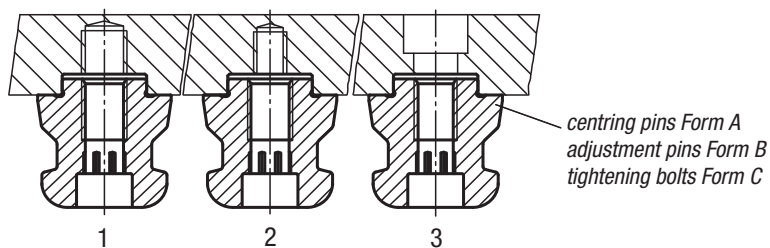
Spigot arrangement/set-up

The workpieces, fixtures or subplates are positioned and clamped using spigots. There are three different spigot types.

- Centring spigot fixed in x and y direction (reference point)
- Compensating pin fixes the free axis (studs)
- Clamping spigot Spigot with undersize (no centring function only clamping function)
- Cylindrical pin For individual clamping, positioning is done with centring spigot + 2 cylindrical pins



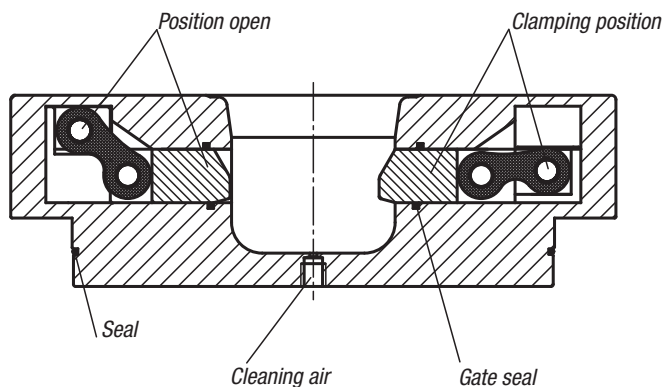
- 1 = fastening with grub screw DIN 913
- 2 = fastening with DIN 912 screw through the tightening bolt
- 3 = fastening with DIN 912 screw through the fixture or workpiece



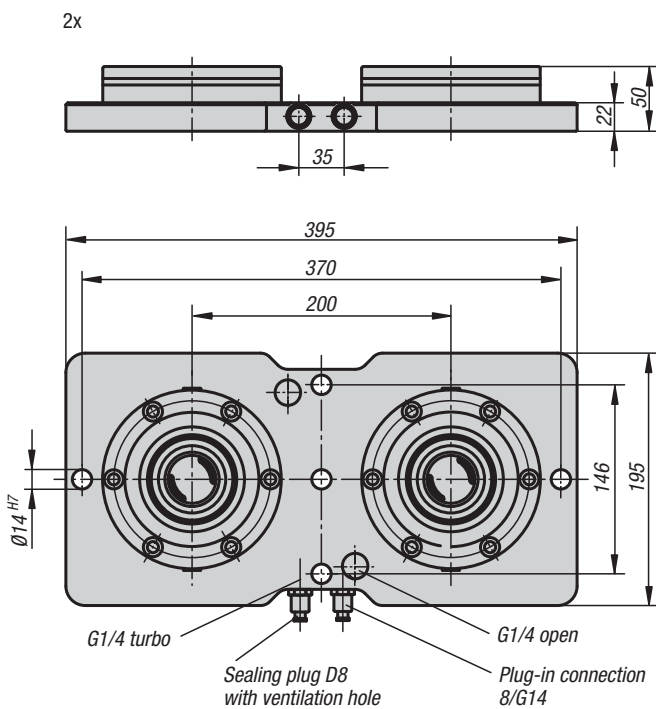
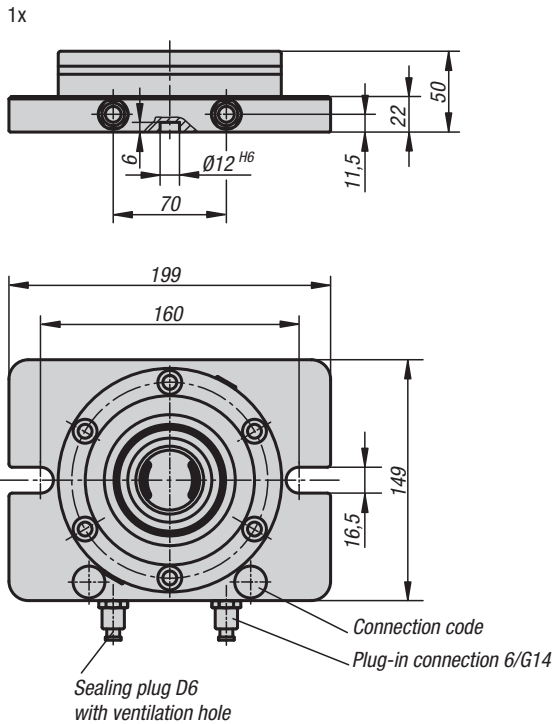
The function

The proven UNI lock clamping module was made even flatter due to a new mechanism. The built-in toggle system together with guided clamping slides ensures high process reliability of the system.

Toggle lever mechanism



UNI lock clamping station



Material:

Clamping module mild steel.
Base plate steel 1.1730.

Version:

Clamping module contact surfaces case-hardened and ground.
Base plate ground on both sides.

Sample order:

K1009.1000149199

Note:

Completely mounted multi-clamping stations with integrated UNI lock $\varnothing 138$ mm mounting clamps. The clamping stations are secured to the machine table directly or with clamps. Common bore patterns are pre-centred on the rear side for mounting. Clamping stations can be aligned via the 14H7 reference holes. The clamping stations are actuated via a central pneumatic connection. The high clamping forces are generated by the integrated spring package (the unit clamps in the de-pressurized state). The release process occurs pneumatically.

The following retaining forces are possible with the UNI lock clamping bolt in conjunction with mounting screws M10, M12, M16:

- Retaining force (M10) 35,000N/module
- Retaining force (M12) 50,000N/module
- Retaining force (M16) 75,000N/module

On request:

Clamping station in special dimensions.

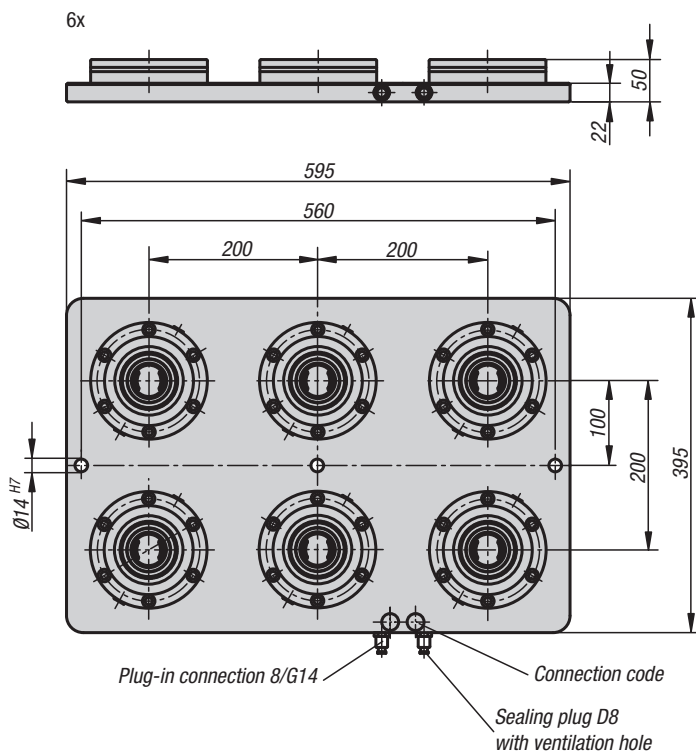
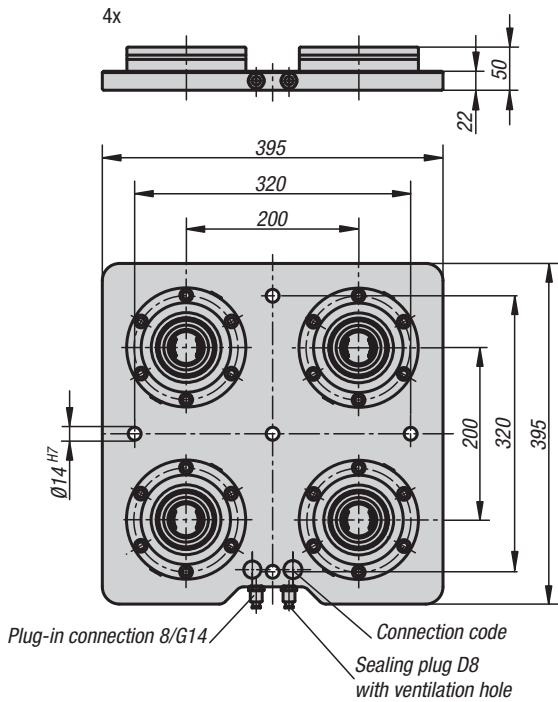
Technical data:

- Opening pressure: 6bar, lubricated air
- Turbo pressure: 6bar
- Air connection: G1/4
- Repeat accuracy ≤ 0.005 mm
- Reference holes 14H7 to align the clamping plate.
- Pneumatic connectors for 6 mm pneumatic hose.

KIPP UNI lock clamping station

Order No.	Version 2	Form	weight kg
K1009.1000149199	-	1x	7,08
K1009.10001491991	rotation lock	1x	7,2
K1009.2200395195	-	2x	17,62

UNI lock clamping station



Material:

Clamping module mild steel.
Base plate steel 1.1730.

Version:

Clamping module contact surfaces case-hardened and ground.
Base plate ground on both sides.

Sample order:

K1009.4200395395

Note:

Completely mounted multi-clamping stations with integrated UNI lock $\varnothing 138$ mm mounting clamps. The clamping stations are secured to the machine table directly or with clamps.

Common bore patterns are pre-centred on the rear side for mounting.

Clamping stations can be aligned via the 14H7 reference holes.

The clamping stations are actuated via a central pneumatic connection.

The high clamping forces are generated by the integrated spring package (the unit clamps in the de-pressurized state).

The release process occurs pneumatically.

The following retaining forces are possible with the UNI lock clamping bolt in conjunction with mounting screws M10, M12, M16:

- Retaining force (M10) 35,000N/module
- Retaining force (M12) 50,000N/module
- Retaining force (M16) 75,000N/module

On request:

Clamping station in special dimensions.

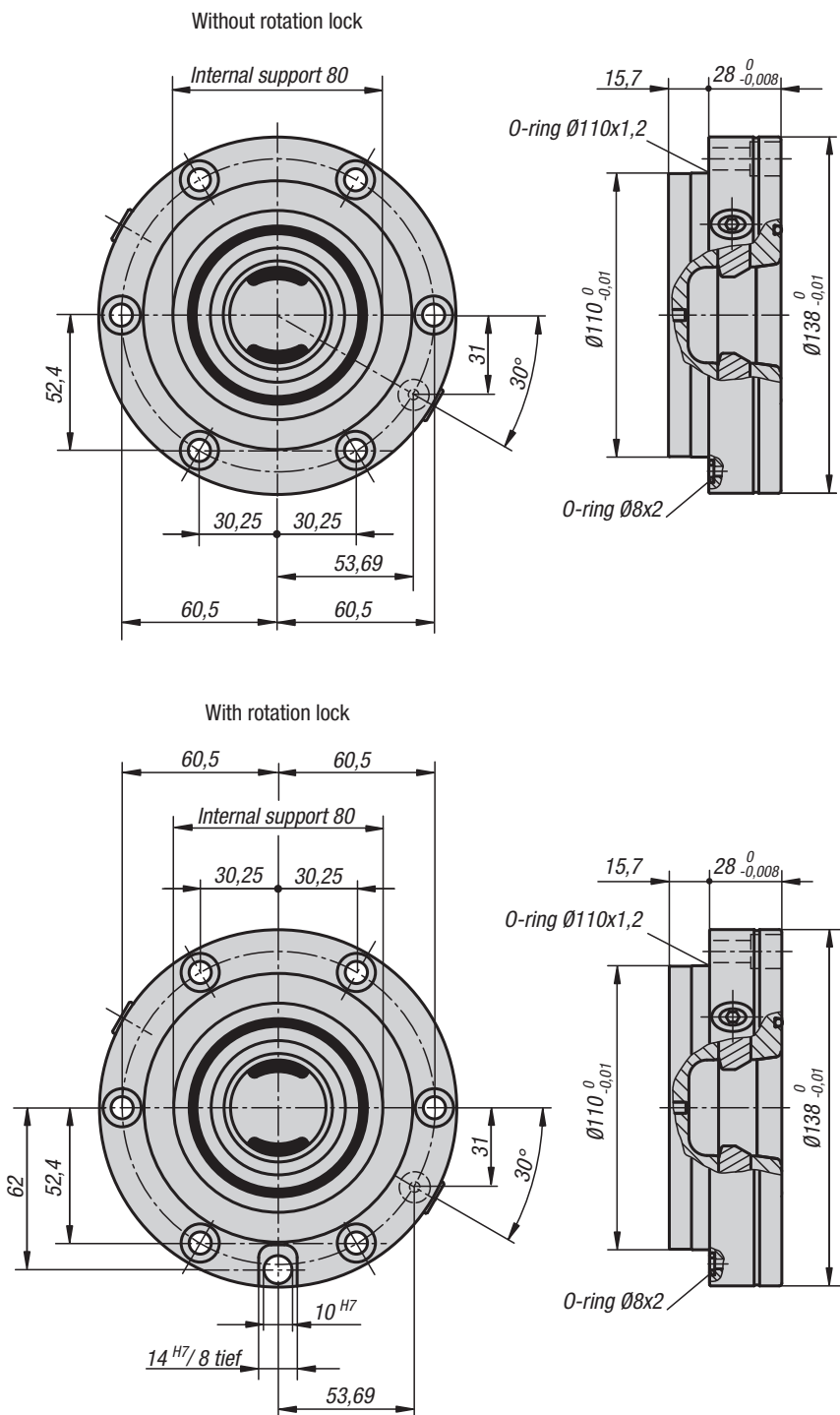
Technical data:

- Opening pressure: 6bar, lubricated air
- Turbo pressure: 6bar
- Air connection: G1/4
- Repeat accuracy ≤ 0.005 mm
- Reference holes 14H7 to align the clamping plate.
- Pneumatic connectors for 6 mm pneumatic hose.

KIPP UNI lock clamping station

Order No.	Form	weight kg
K1009.4200395395	4x	35
K1009.6200595395	6x	52,2

UNI lock installation clamp



Material:
Steel.

Version:
Contact faces case-hardened and ground.

Sample order:
K1003.138280

Note:
The UNI lock mounting clamps can be installed in any position on machine tables, fixtures or workholding equipment (tooling plates, cubes, tombstones etc). The modular design enables the number of clamps and distance between them to be ideally adjusted to suit the clamping task. The clamps can be supplied with or without rotation lock.

The high clamping forces are generated by the integrated spring package (the unit clamps when depressurised). Compressed air is applied to release the clamp.

The following holding forces are possible with the UNI lock clamping bolt in conjunction with M10, M12 or M16 fastening screws:

- Holding force (M10) 35,000N
- Holding force (M12) 50,000N
- Holding force (M16) 75,000N

Supplied with:
1x clamping module incl. 6 fastening screws.
6x screw protection caps.
2x air connection O-rings.
1x installation O-ring.

Technical data:
- Opening pressure: 6 bar, lubricated air
- Turbo pressure: 6 bar
- Air connection: G 1/8"
- Repeat accuracy ≤ 0.005 mm

KIPP UNI lock installation clamp

Order No.	Version	weight kg
K1003.138280	without rotation lock	3,56
K1003.138281	with rotation lock	3,52

UNI lock installation clamp



Material:
Steel.

Version:
Contact faces case-hardened and ground.

Sample order:
K1385.138390

Note:
The UNI lock mounting clamps can be installed in any position on machine tables, fixtures or workholding equipment (tooling plates, cubes, tombstones etc).
The modular design enables the number of clamps and distance between them to be ideally adjusted to suit the clamping task.
The high clamping forces are generated by the integrated spring package (the unit clamps when depressurised). Compressed air is applied to release the clamp.

The following holding forces are possible with the UNI lock clamping bolt in conjunction with M10, M12 or M16 fastening screws:

- Holding force (M10) 35,000N
- Holding force (M12) 50,000N
- Holding force (M16) 75,000N

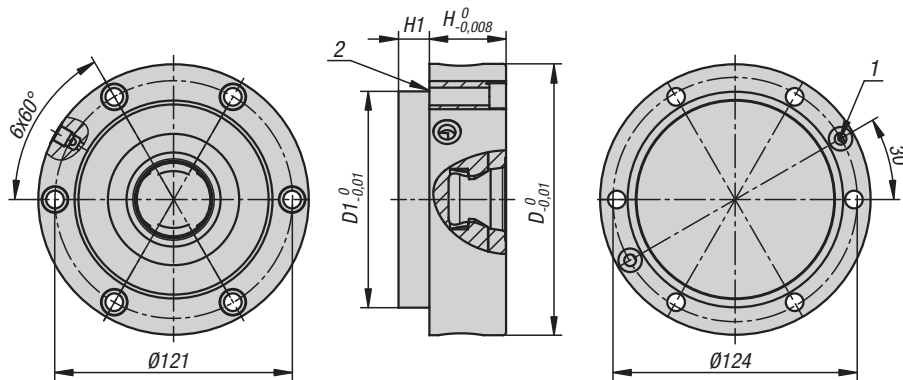
Supplied with:
1x clamping module incl. 6 fastening screws.
6x screw protection caps.
2x air connection O-rings.
1x installation O-ring.

Technical data:

- Opening pressure: 6 bar, lubricated air
- Turbo pressure: 6 bar
- Air connection: G 1/8"
- Repeat accuracy ≤ 0.005 mm

Drawing reference:

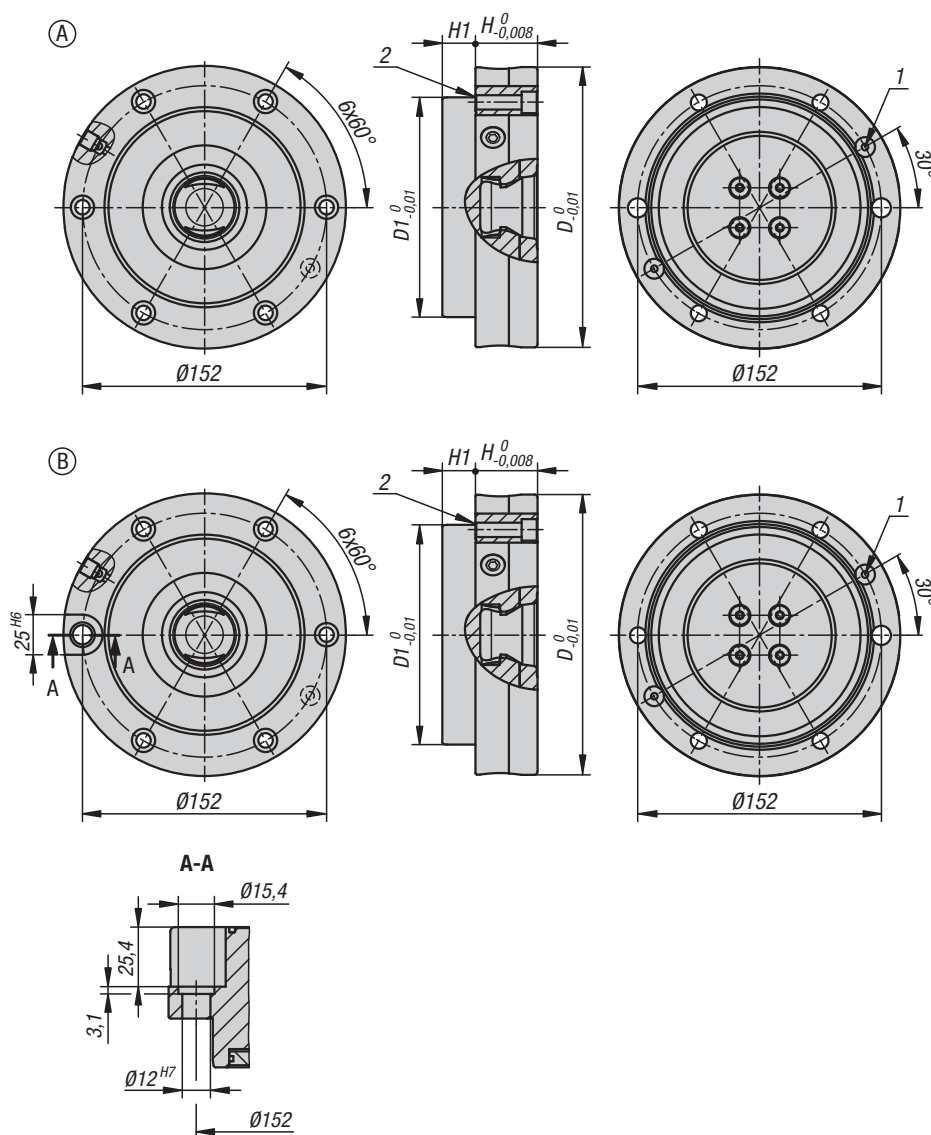
- 1) O-ring ($\emptyset 8 \times 2$)
- 2) O-ring ($\emptyset 110 \times 1,2$)



KIPP UNI lock installation clamp

Order No.	Version	D	D1	H	H1
K1385.138390	without rotation lock	138	110	39	15,7

UNI lock mounting clamps



Material:
Steel.

Version:
Contact faces case-hardened and ground.

Sample order:
K1389.176390

Note:
The UNI lock mounting clamps can be installed in any position on machine tables, fixtures or workholding equipment (tooling plates, cubes, tombstones etc). The modular design enables the number of clamps and distance between them to be ideally adjusted to suit the clamping task. The clamps can be supplied with or without rotation lock. The high clamping forces are generated by the integrated spring package (the unit clamps when depressurised). Compressed air is applied to release the clamp.

The following holding forces are possible with the UNI lock clamping bolt in conjunction with M10, M12 or M16 fastening screws:

- Holding force (M10) 35,000N
- Holding force (M12) 50,000N
- Holding force (M16) 75,000N

Supplied with:
1x clamping module incl. 6 fastening screws.
6x screw protection caps.
2x air connection O-rings.
1x installation O-ring.

Technical data:

- Opening pressure: 6 bar, lubricated air
- Turbo pressure: 6 bar
- Air connection: G 1/8"
- Repeat accuracy ≤ 0.005 mm

Drawing reference:
1) O-ring (Ø8x2)
2) O-ring (Ø138)

KIPP UNI lock mounting clamps

Order No.	Form	Version	D	D1	H	H1
K1389.176390	A	without rotation lock	176	138	39	20,8
K1389.176391	B	with rotation lock	176	138	39	20,8

UNI lock double clamping module

**Material:**

Steel.

Version:

Contact faces case-hardened and ground.

Sample order:

K1122.1381500

Note:

UNI lock double clamp modules are particularly suitable for the direct clamping of workpieces. Workpieces with complex geometry can be completely machined on 4 and 5 sides.

UNI lock double clamp modules can be mounted in any position.

The high clamping forces are generated by the integrated spring package. (the unit clamps while not pressurised). Clamping is released pneumatically.

The following clamping forces are possible with the UNI lock clamping pin in conjunction with M10, M12, M16 fastening screws:

Clamping force (M10) 35,000 N

Clamping force (M12) 50,000 N

Clamping force (M16) 75,000 N

Supplied with:

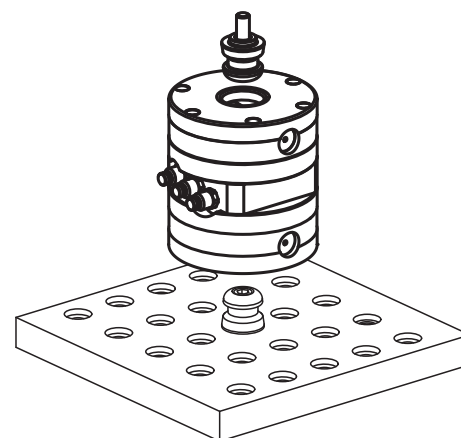
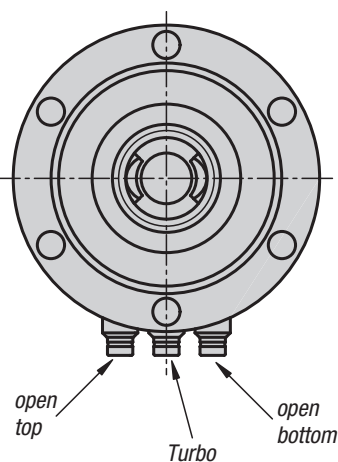
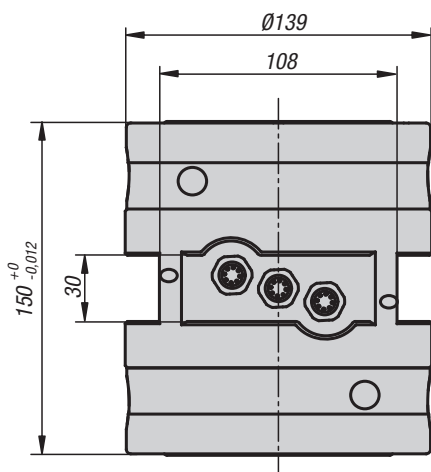
1 double clamp module incl. 3x pneumatic connections.

Technical data:

Opening pressure: 6 bar, lubricated air

Turbo pressure: 6 bar

Air connection: G 1/8

Repeat accuracy ≤ 0.005 mm

KIPP UNI lock double clamping module

Order No.	Type	weight kg
K1122.1381500	Double Clamp	3

UNI lock manual clamping module



Material:
Steel.

Version:
Contact faces case-hardened and ground.

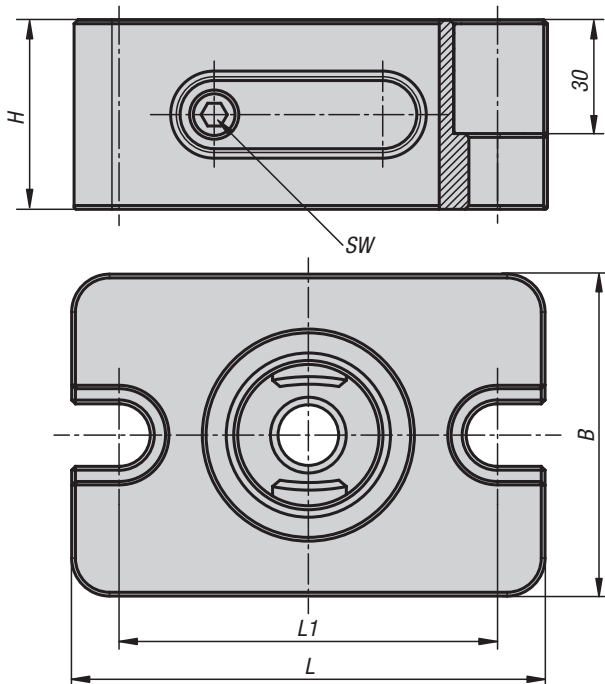
Sample order:
K1123.1605050

Note:
UNI lock manual clamping modules can be adapted directly to machine tables with grid holes or T-slots, and to grid hole subplates with 50 mm grid spacing system size M10/M12/M16.

The UNI lock manual clamping module H 50 is particularly suitable for machines with reduced Z travel. The low installation height of the manual clamping module facilitates full utilisation of the Z travel. The UNI lock manual clamping module H 50 can be mounted in any position.

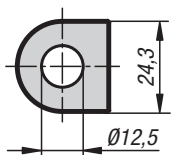
Supplied with:
1 manual clamping module incl. fastening accessories.

Technical data:
Repeat accuracy ≤ 0.005 mm

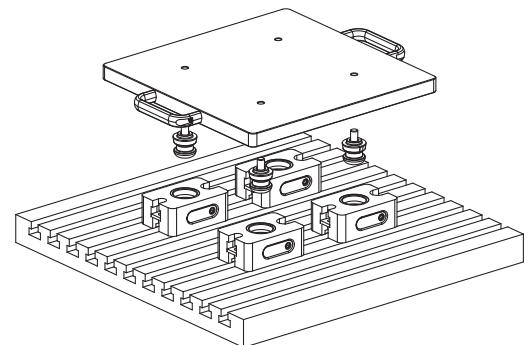
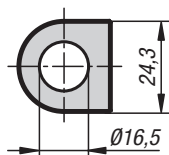


Mounting accessories

M12:



M16:

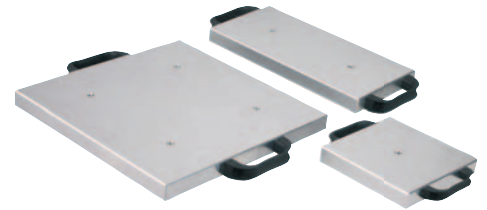


KIPP UNI lock manual clamping module

Order No.	B	H	L	L1	SW	weight kg
K1123.1605050	85	50	125	100	6	3,52

Interchangeable subplates

for UNI lock zero-point clamping system

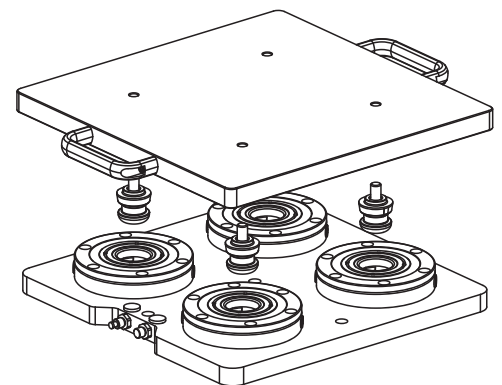
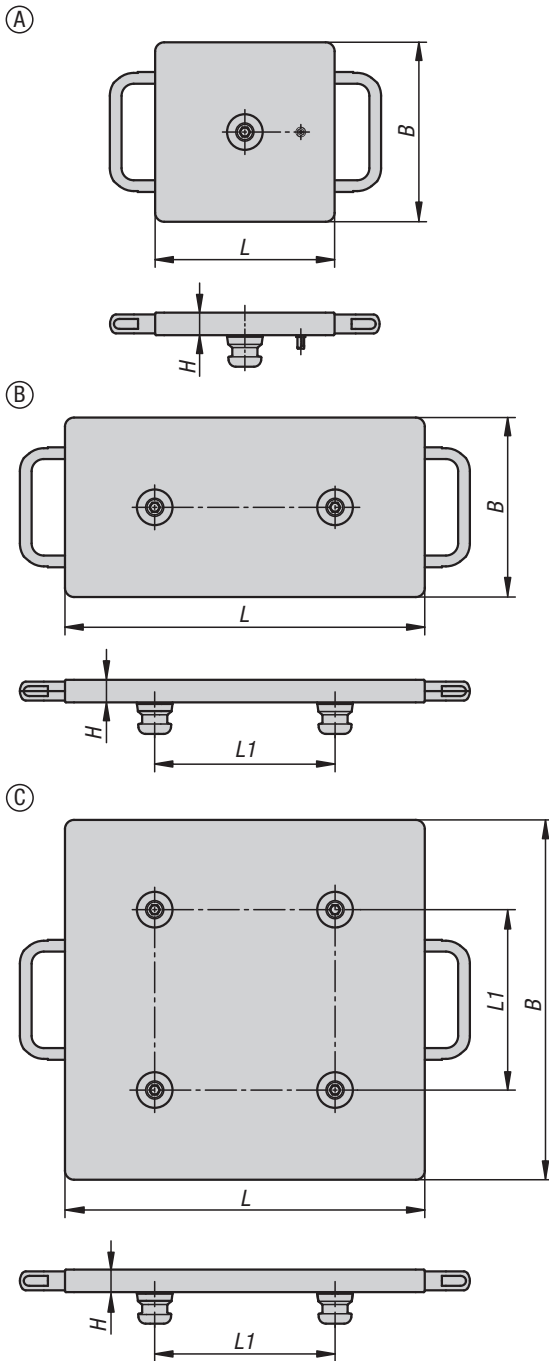


Material:
High-strength aluminium.

Sample order:
K1218.1000200200

Note:
Interchangeable subplates are particularly suitable for quickly exchanging fixtures on zero point clamping plates. Ground on both sides, standard clamping pin gauge of 200 mm. Complete with clamping pins and handles.

On request:
Further gauges and special sizes.

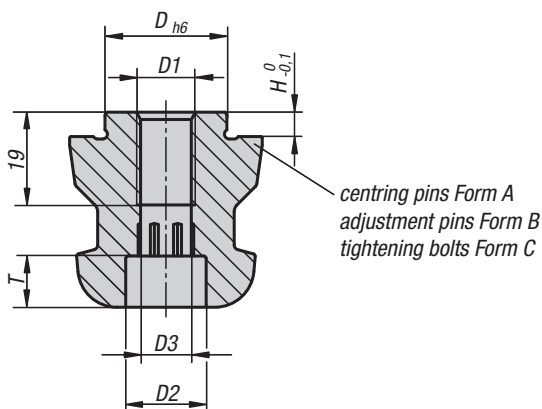
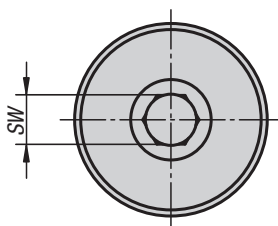


KIPP Interchangeable subplates for UNI lock zero point clamping system

Order No.	Form	B	H	L	L1	weight ca. kg
K1218.1000200200	A	199	25	199	-	7,44
K1218.2200200200	B	199	25	399	200	6,02
K1218.4200400400	C	399	25	399	200	11,88

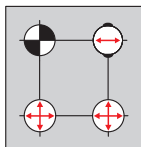
UNI lock clamping pin

size 80 mm

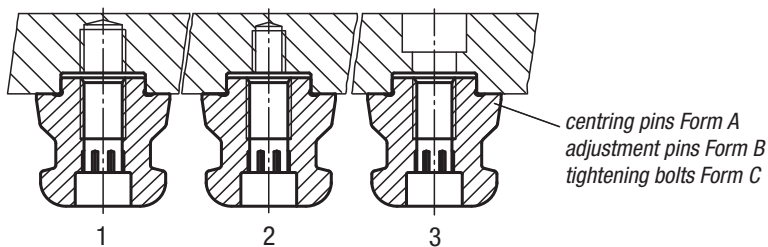


centring pins Form A
adjustment pins Form B
tightening bolts Form C

- Centring pins = Form A fixes in x and y axis (reference point)
- Adjustment pins = Form B fixes the free axis (bayonet pin)
- Tightening bolts = Form C Pins with undersize (no centring function, clamping only)



- 1 = fastening with grub screw DIN 913
- 2 = fastening with DIN 912 screw through the tightening bolt
- 3 = fastening with DIN 912 screw through the fixture or workpiece



centring pins Form A
adjustment pins Form B
tightening bolts Form C



Material:
Steel.

Version:
Hardened and black oxidised.
Contact faces ground.

Sample order:
K0967.140160512

Note:
The UNI lock clamping pin is suitable for clamping and positioning workpieces and fixtures. Clamping pins are screwed onto the exchange element and adapted to the various basic modules.

KIPP UNI lock clamping pin

Order No. A	Order No. B	Order No. C	D	D1	D2	D3	H	T	SW
K0967.140160512	K0967.240160512	K0967.340160512	16	M12	16,5	10,3	5	10,5	10
K0967.140180512	K0967.240180512	K0967.340180512	18	M12	16,5	10,3	5	10,5	10
K0967.140200512	K0967.240200512	K0967.340200512	20	M12	16,5	10,3	5	10,5	10
K0967.140220516	K0967.240220516	K0967.340220516	22	M16	18,5	14,2	5	12,5	17
K0967.140240516	K0967.240240516	K0967.340240516	24	M16	18,5	14,2	5	12,5	17
K0967.140250512	K0967.240250512	K0967.340250512	25	M12	16,5	10,3	5	10,5	10
K0967.140250516	K0967.240250516	K0967.340250516	25	M16	18,5	14,2	5	12,5	17
K0967.140251012	K0967.240251012	K0967.340251012	25	M12	16,5	10,3	10	10,5	10
K0967.140251016	K0967.240251016	K0967.340251016	25	M16	18,5	14,2	10	12,5	17

UNI lock clamping pin

with through hole, system size 80 mm



Material:

Steel.

Version:

Hardened and black oxidised.

Contact faces ground.

Swivel fastening screw M16x65, tempered and black oxidised.

Sample order:

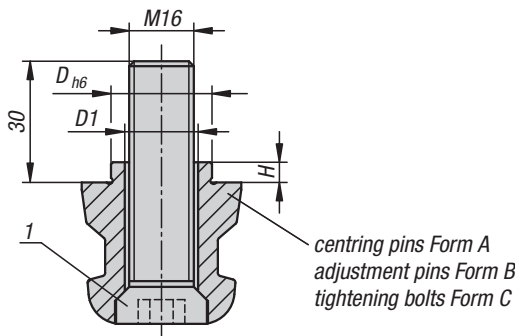
K1471.140250516

Note:




The UNI lock clamping pin is suitable for clamping and positioning workpieces and fixtures. Clamping pins are screwed onto the exchange element and adapted to the various basic modules.

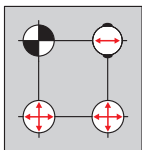
Drawing reference:

1) Swivel fastening screw M16x65.



centring pins Form A
adjustment pins Form B
tightening bolts Form C

-  Centring pins = Form A fixes in x and y axis (reference point)
-  Adjustment pins = Form B fixes the free axis (bayonet pin)
-  Tightening bolts = Form C Pins with undersize (no centring function, clamping only)



KIPP UNI lock clamping pin with through hole

Order No.	Form	D	D1	H
K1471.140250516	A	25	16,5	5
K1471.240250516	B	25	16,5	5
K1471.340250516	C	25	16,5	5

K1010

Protective bolt

for clamping module

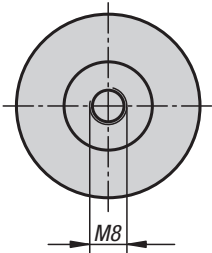
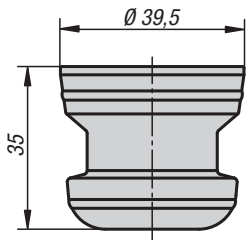


Material:
Aluminium.

Version:
Black anodised

Sample order:
K1010.040

Note:
Protection bolt to cover the hole.



KIPP Protective bolts for clamping module

Order No.	Dimensions
K1010.040	see drawing

K1010

Protective plug

for clamping module

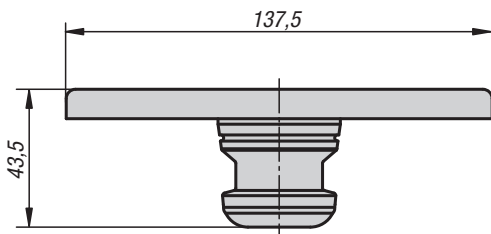


Material:
Aluminium.

Version:
Black anodised

Sample order:
K1010.138

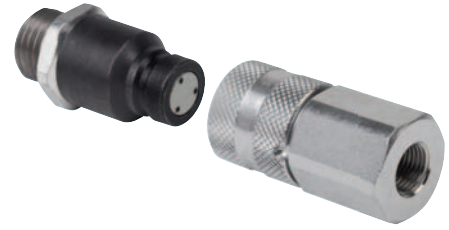
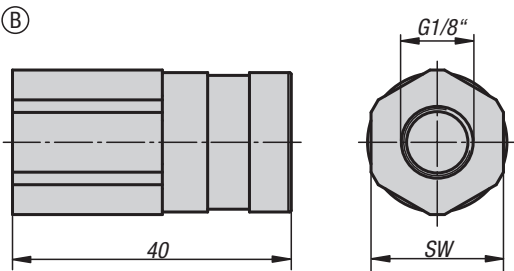
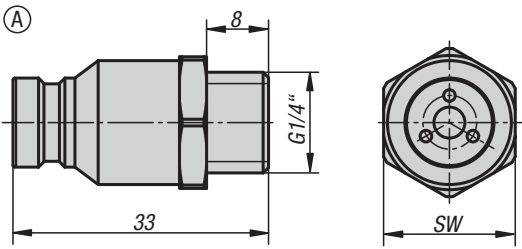
Note:
Protective plug for clamping module D = 138.



KIPP Protective plug for clamping module

Order No.	Dimensions
K1010.138	see drawing

Quick-fit couplings



Material:
Steel.

Version:
Electro zinc-plated.

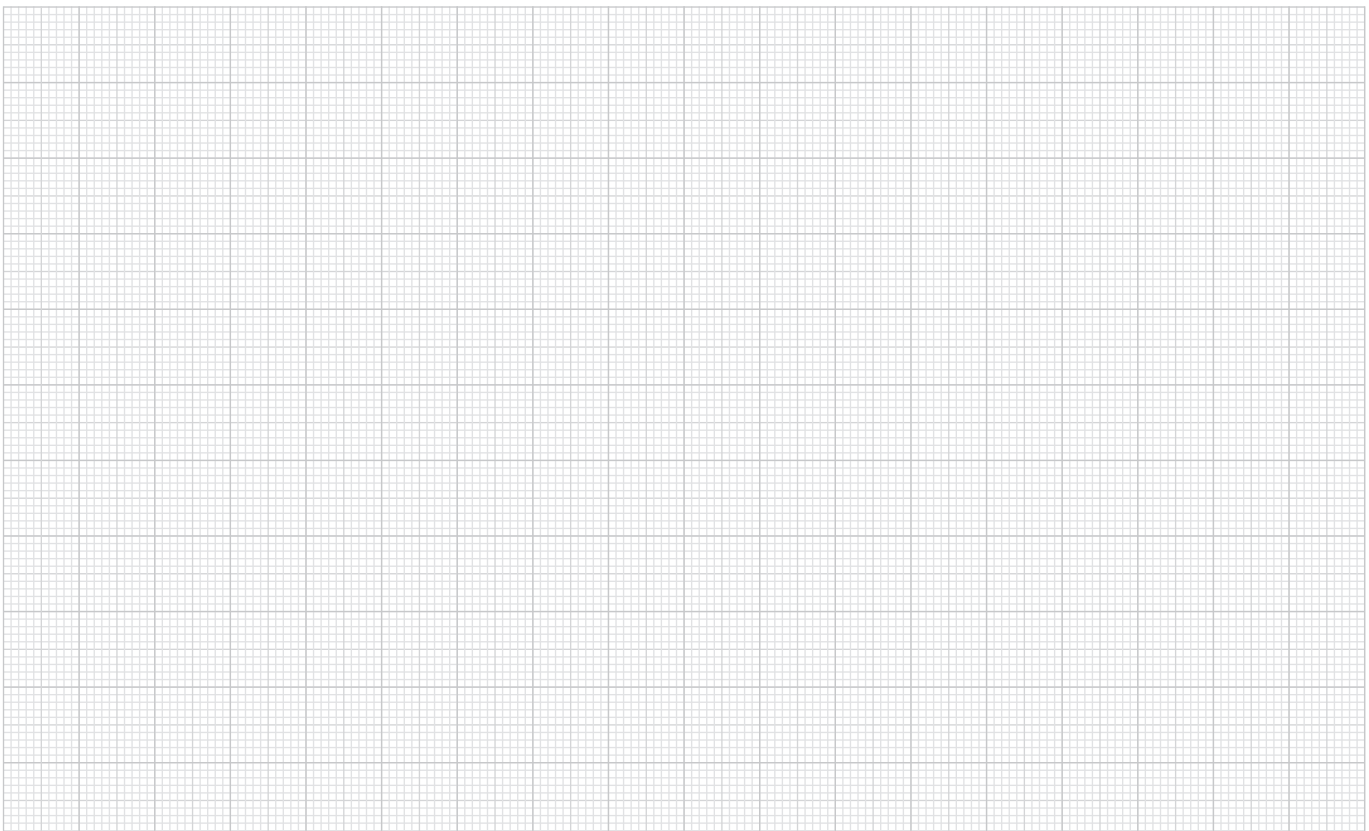
Sample order:
K1011.0014

Note:
Quick-fit couplings suitable for UNI lock clamping stations.

KIPP Quick-fit couplings

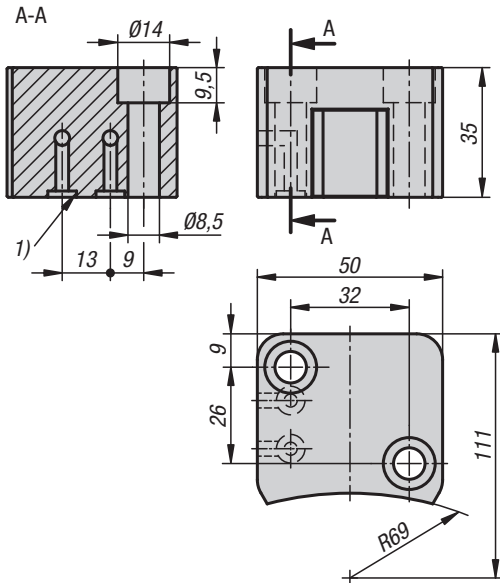
Order No.	Form	SW
K1011.0014	A	17
K1011.1018	B	19

Notes



Feedback sensor

for UNI lock installation clamp K1385



Material:

Housing high-strength aluminium.

Version:

Black anodised

Sample order:

K1484.138

Note:

Feedback sensors are used together with installation clamps. They are fastened directly to the baseplate of the clamping station.

Including:

- 2x O-rings D8x1.5mm
- 2x M8x35mm cap screws
- 2x protective caps

Function:

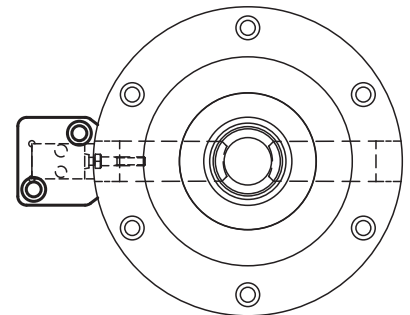
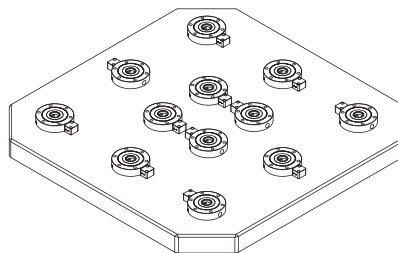
A compressed air line is connected to the feedback sensor when the installation clamp is in clamped mode. When the 1st clamp opens, the feedback sensor sends compressed air to the next clamp in line until all are open (series switching principle). The air from the last feedback sensor is used to activate a signal.

Applications:

K1385.

Drawing reference:

1) O-ring

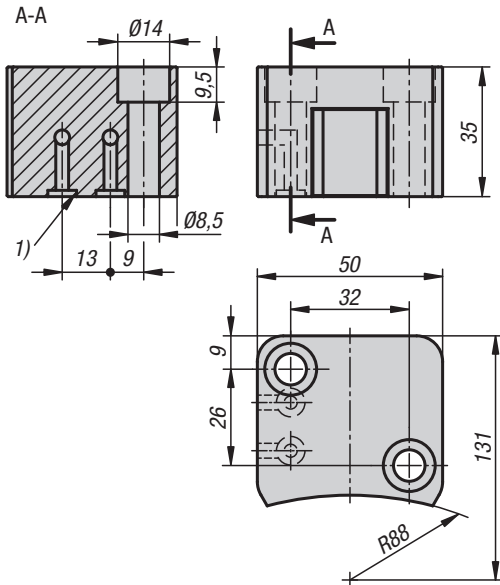


KIPP Feedback sensor for UNI lock installation clamp

Order No.	Version 1
K1484.138	for installation clamp

Feedback sensor

for UNI lock installation clamp K1389



Material:

Housing high-strength aluminium.

Version:

Black anodised

Sample order:

K1485.176

Note:

Feedback sensors are used together with installation clamps. They are fastened directly to the baseplate of the clamping station.

Including:

- 2x O-rings D8x1.5mm
- 2x M8x35mm cap screws
- 2x protective caps

Function:

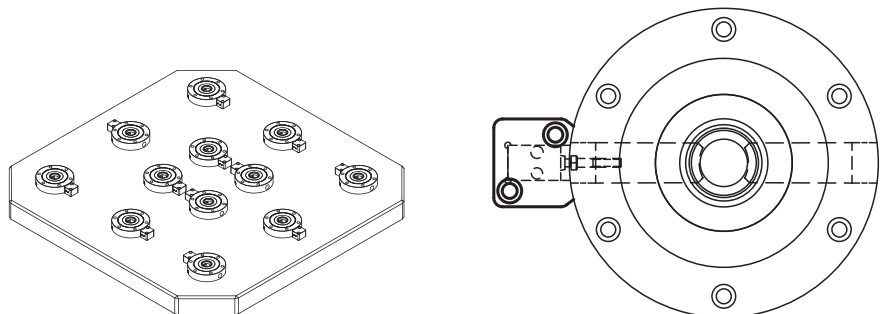
A compressed air line is connected to the feedback sensor when the installation clamp is in clamped mode. When the 1st clamp opens, the feedback sensor sends compressed air to the next clamp in line until all are open (series switching principle). The air from the last feedback sensor is used to activate a signal.

Applications:

K1389.

Drawing reference:

1) O-ring



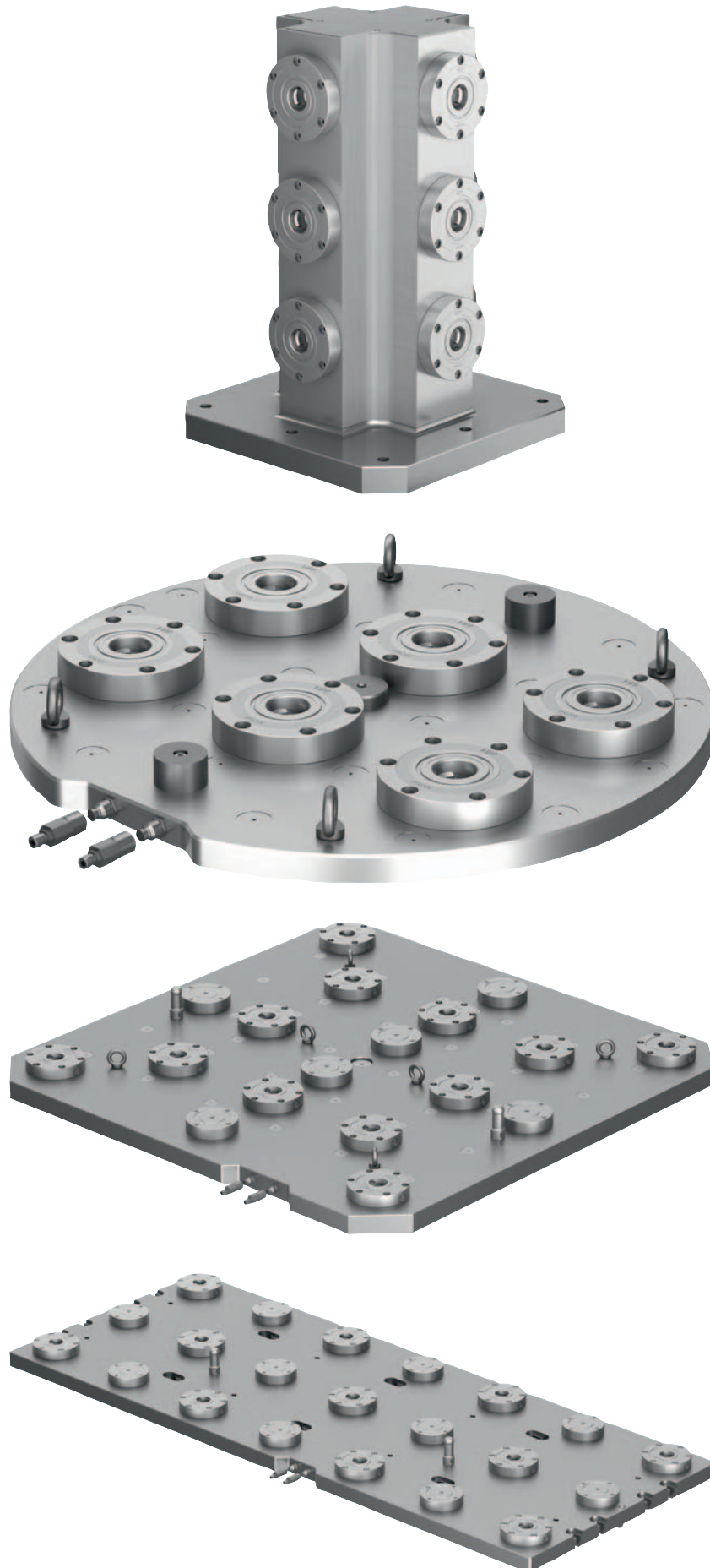
KIPP Feedback sensor for UNI lock installation clamp

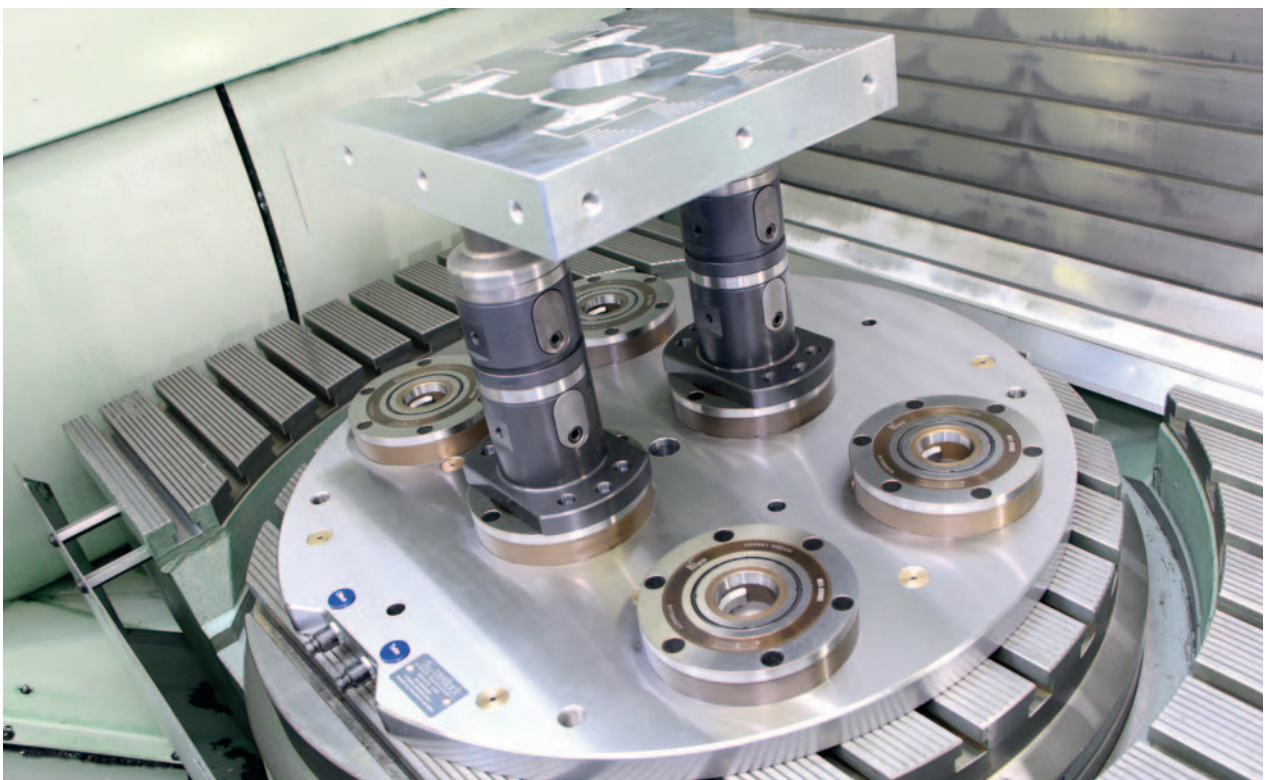
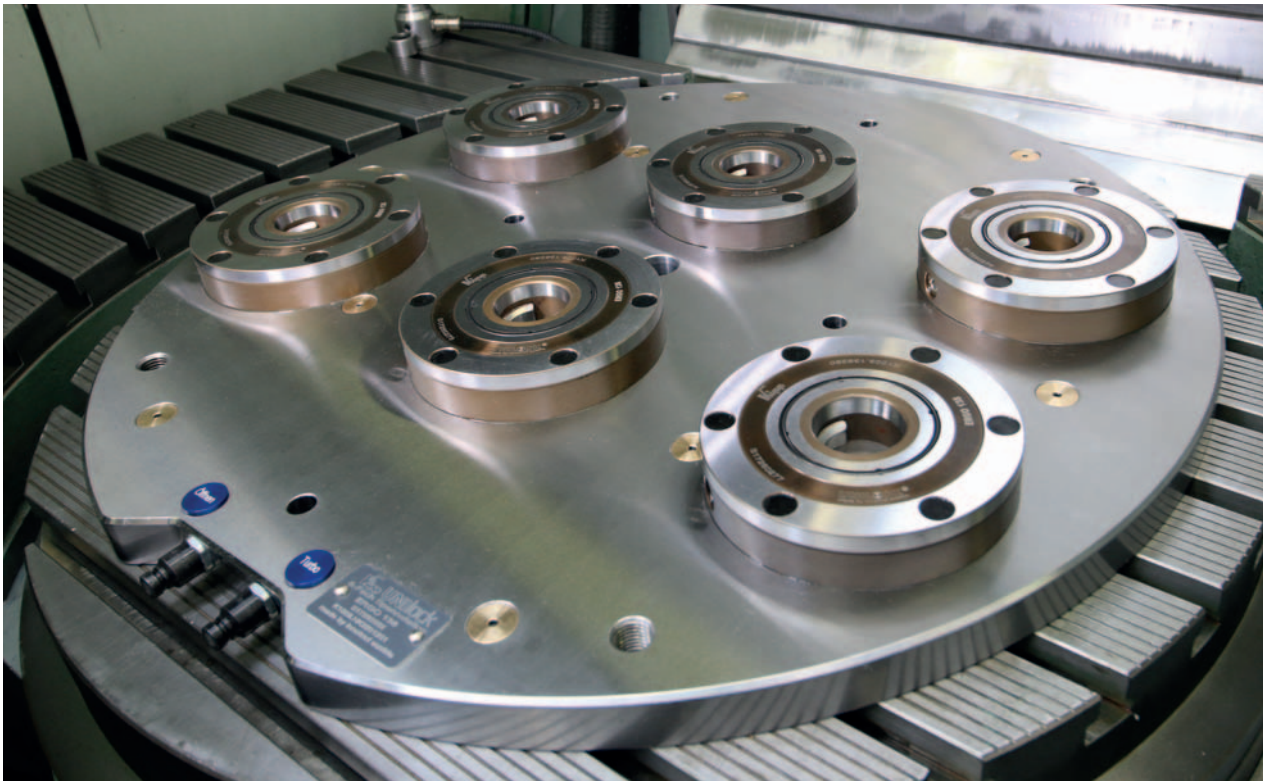
Order No.

Version 1

K1485.176

for installation clamp





5-axis module clamping system 80

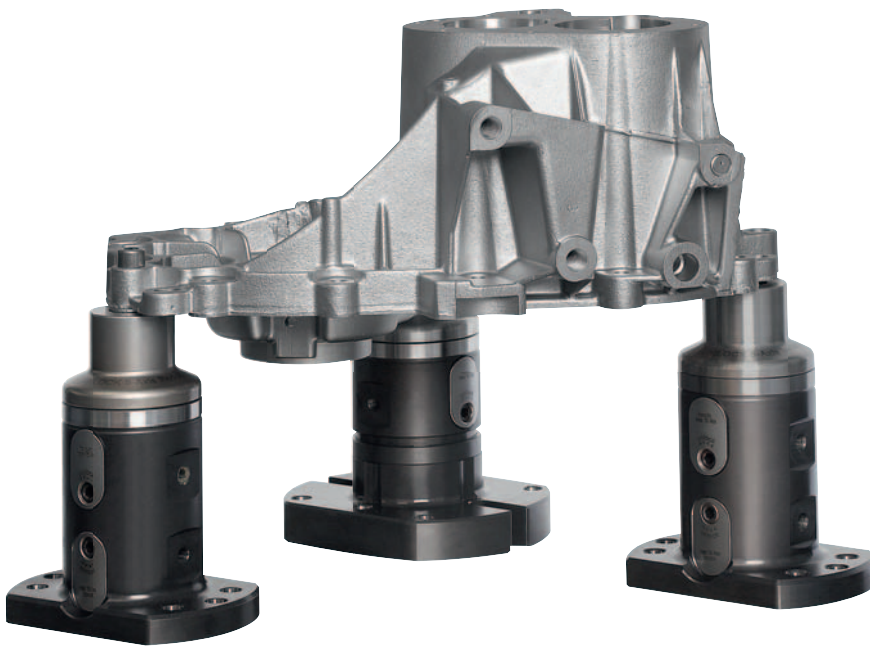


Function



UNI lock was developed specifically for 5-side machining. Ideal for clamping complex workpiece's. They can then be machined completely in a single clamping operation. Even machining from the 6th side is possible. The workpiece's are connected to the 5-axis module system by a screw connection.

System size 80 mm

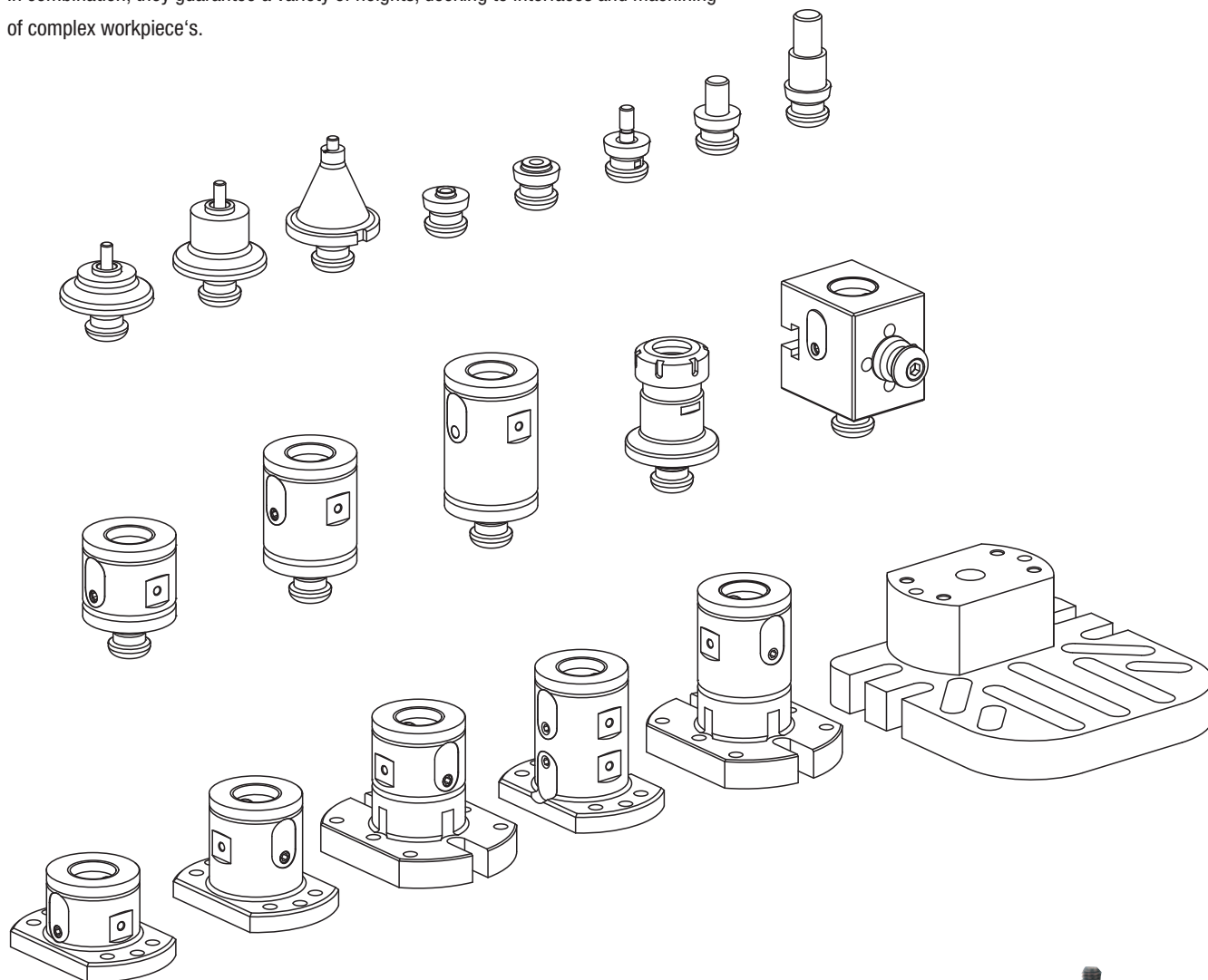


ADVANTAGES:

- 5-side machining with no protruding edges
- Modular construction guarantees maximum flexibility
- Interfaces with commonly used systems
- Variable workpiece fastening
- The workpiece is positively joined to the clamping system
- The workpiece is simply positioned with screws or seating's
- The zero point is transferred to the workpiece
- High module clamping force
- Very high repeat accuracy

Thanks to the modular construction and the variety of modules, the system can be configured individually and recombined for many applications.

More than 70 elements are available: basic modules, add-on modules and accessories.
In combination, they guarantee a variety of heights, docking to interfaces and machining
of complex workpiece's.



Flexible stack heights through a wide variety of basic and add-on clamp modules

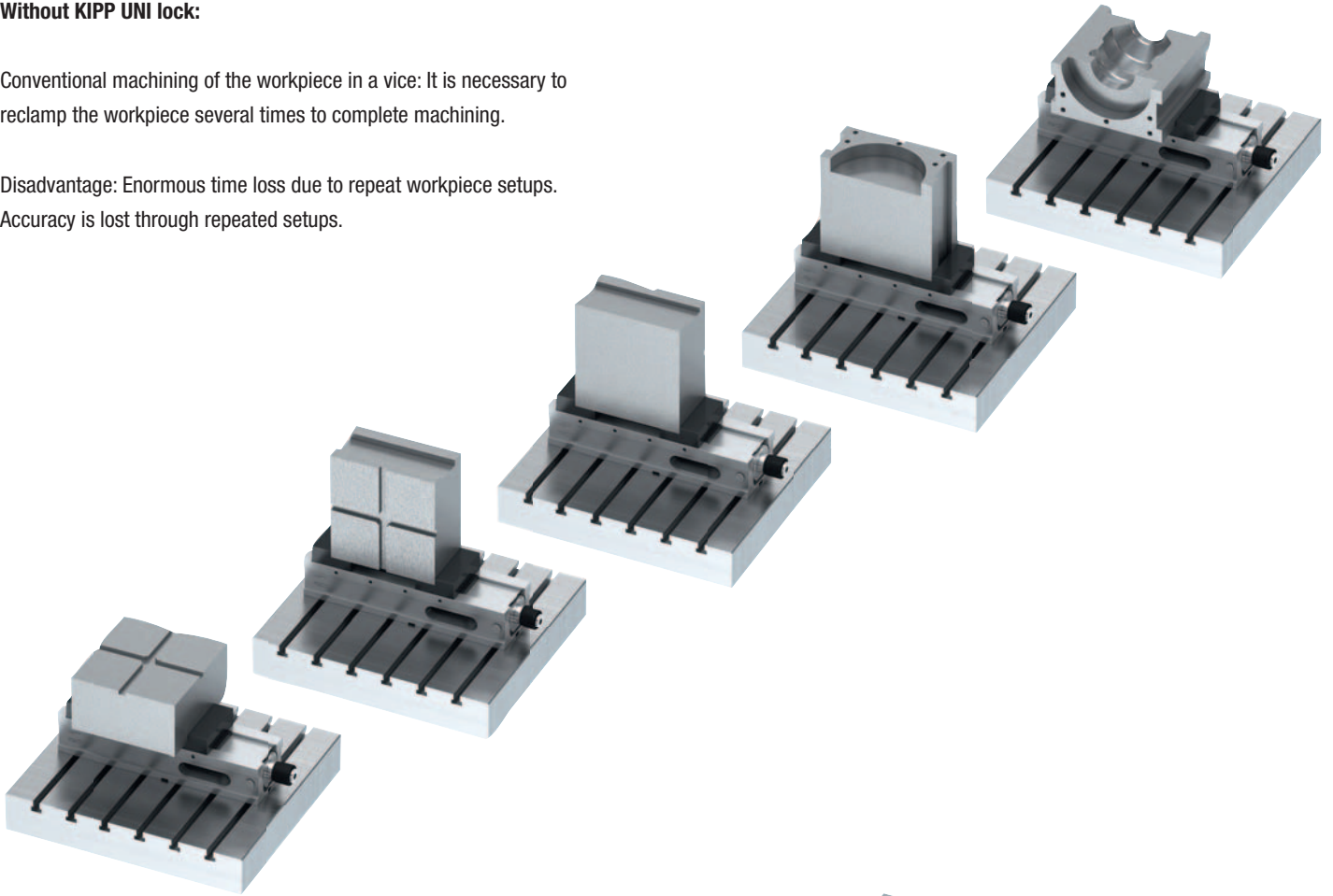
Setup times



Without KIPP UNI lock:

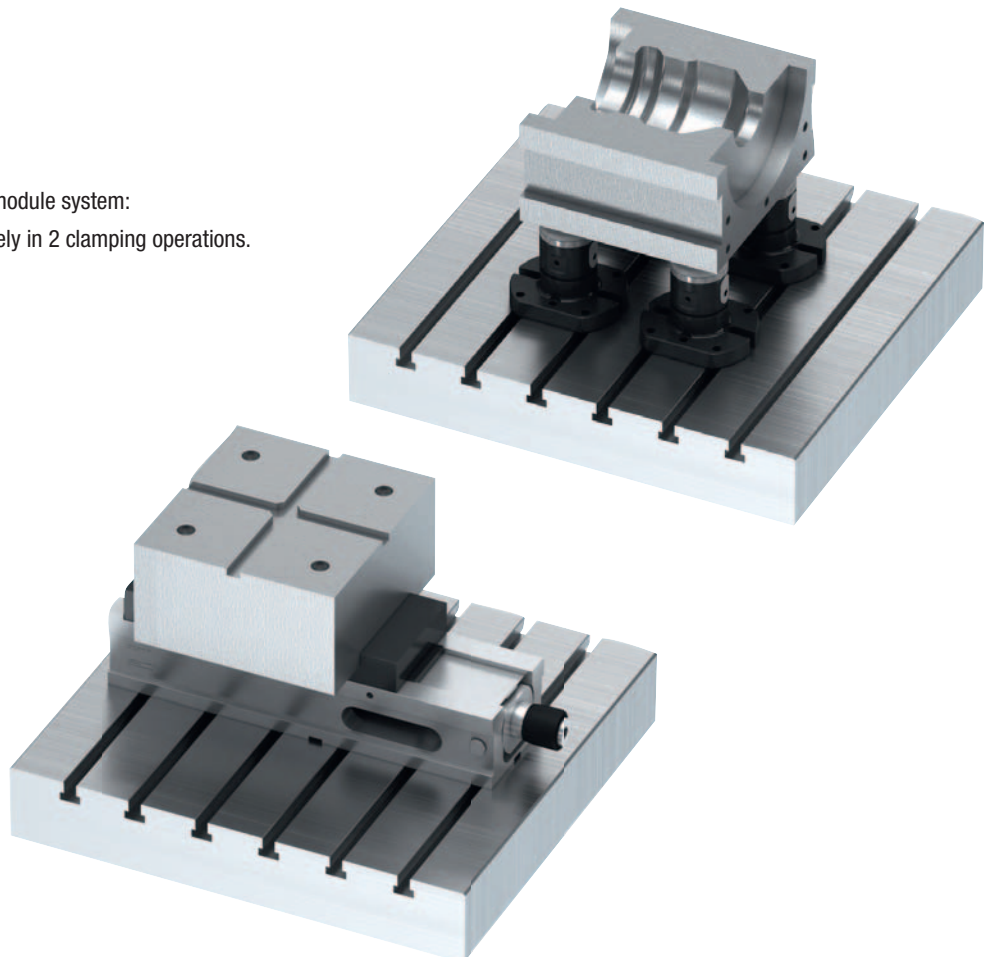
Conventional machining of the workpiece in a vice: It is necessary to reclamp the workpiece several times to complete machining.

Disadvantage: Enormous time loss due to repeat workpiece setups.
Accuracy is lost through repeated setups.



With KIPP UNI lock:

Machining with the UNI lock 5-axis module system:
The workpiece is machined completely in 2 clamping operations.

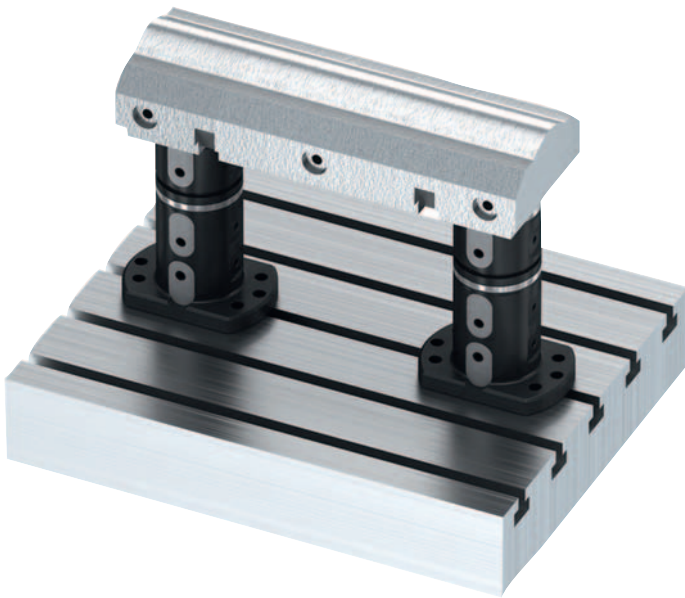


Interfaces

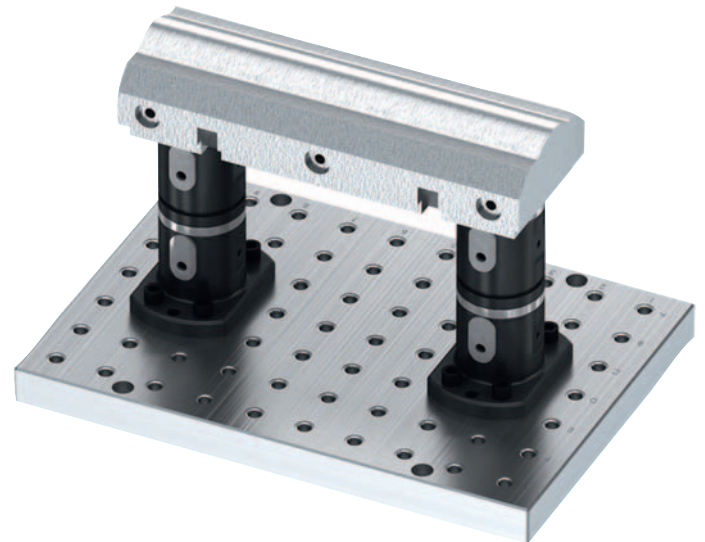


The 5-axis module system can be mounted on T slot tables, grid systems or directly to machine tables. Moreover, the basic modules can be adapted to most common zero-point clamping systems.

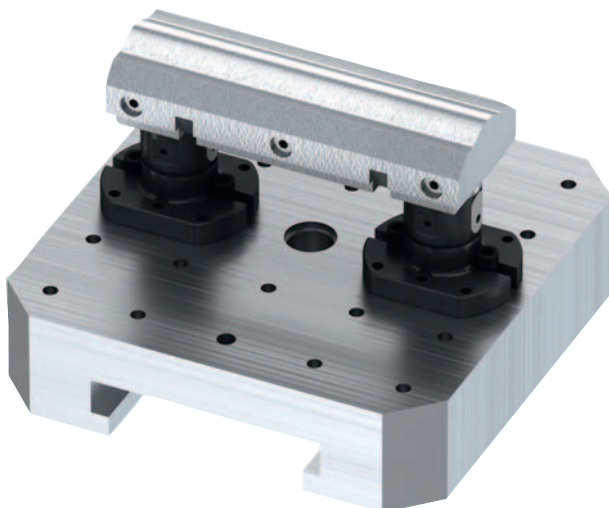
T-slot tables



Grid systems



Machine tables

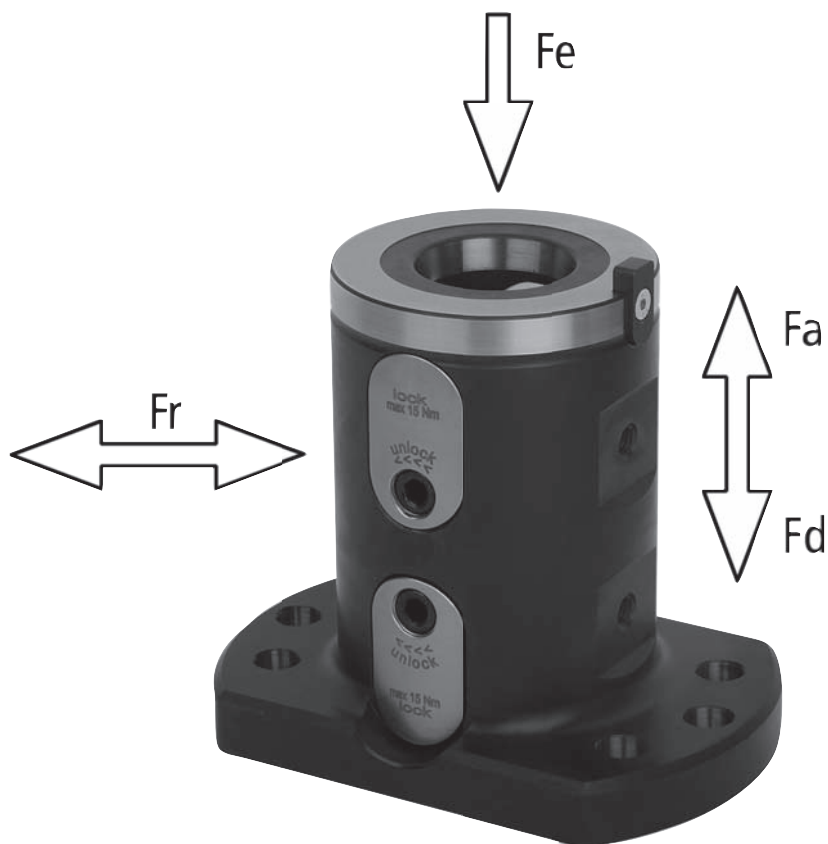


Zero-point clamping systems



Forces

system size 80 mm



- F_r** Permissible transverse force
- F_a** Permissible clamping force
- F_d** Permissible contact force
- F_e** Clamping bolt pull-in force

Permissible load with full contact:

		F_r	F_a	F_d	F_e
Clamping pin screw M10	kN	25	35	50	25
Clamping pin screw M12	kN	25	50	50	25
Clamping pin screw M16	kN	25	75	50	25



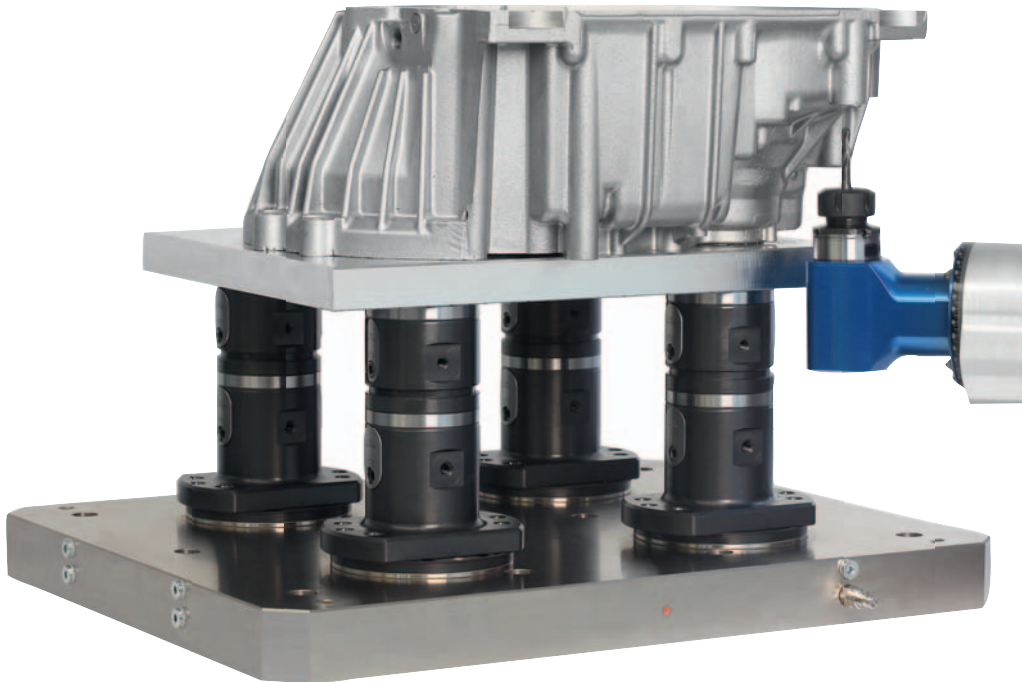
Max. tightening torque 15 Nm (system size 80 mm)

Applications



The workpiece is secured on one, two or more stable module columns. Additional columns can be added easily for large parts. The clamping system is actuated manually without the need for power sources and can be converted very quickly for other workpiece's or fixtures.

Assembling the modules is remarkably simple: position basic module (bolt on from above or below), place add-on clamp modules, position reducer adaptors with bolted-on workpiece and then use a torque wrench to tighten manually. The system is now stable and ready for 5-axis machining.



4 basic modules H=100 positioned directly on the machine table. The 4 reducers H=50 on top facilitate optimum access to workpieces.

Clamping height 150 mm



Applications



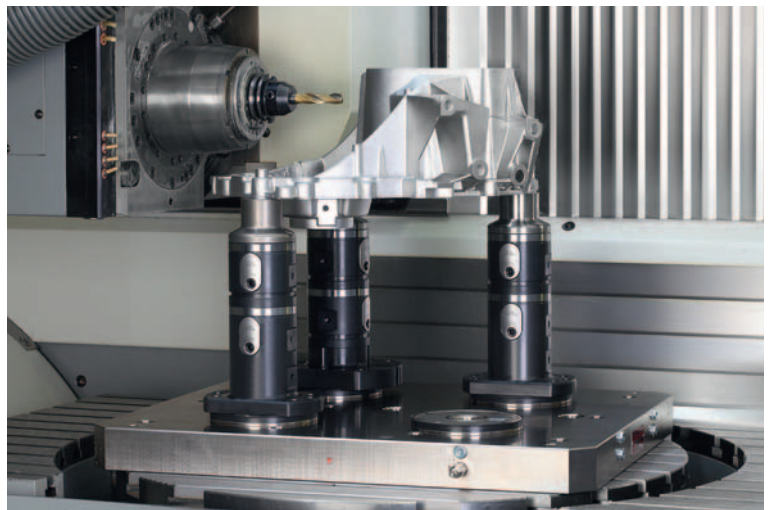
KIPP basic module with collet adaptor mounted directly on a machine table with T-slots.

Clamping height 220 mm



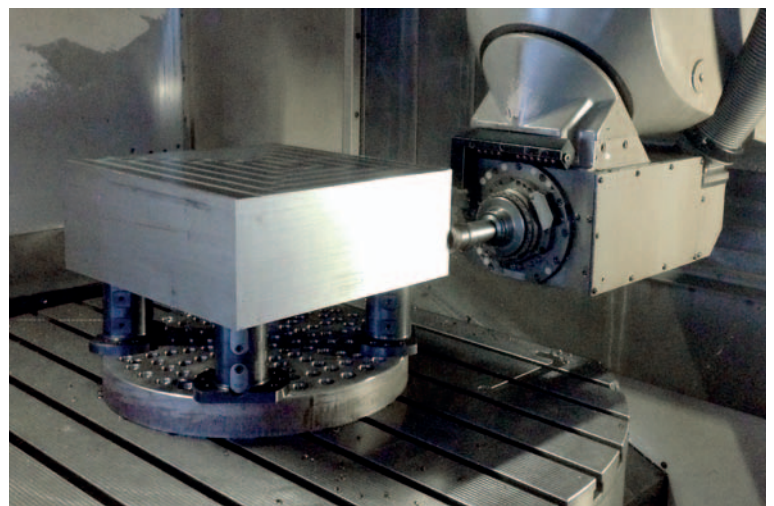
Gearbox housing mounted on 3 basic modules, 3 add-on modules and 3 reducer adaptors. The cast housing is secured to the reducer adaptors by means of socket-head screws.

Clamping height 250 mm



4 double clamp basic modules positioned on a tooling plate. Optimum 5-side machining is possible.

Clamping height 125 mm

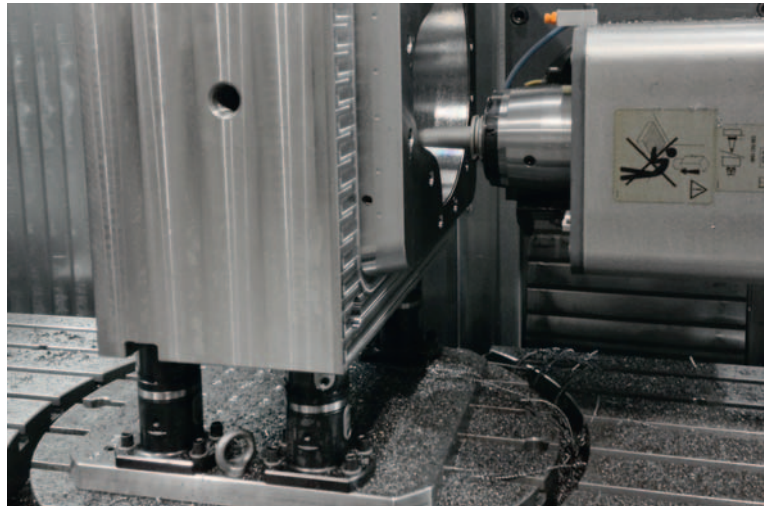


Applications



Solid workpiece mounted on 4 basic modules and 4 add-on modules.

Clamping height 150 mm



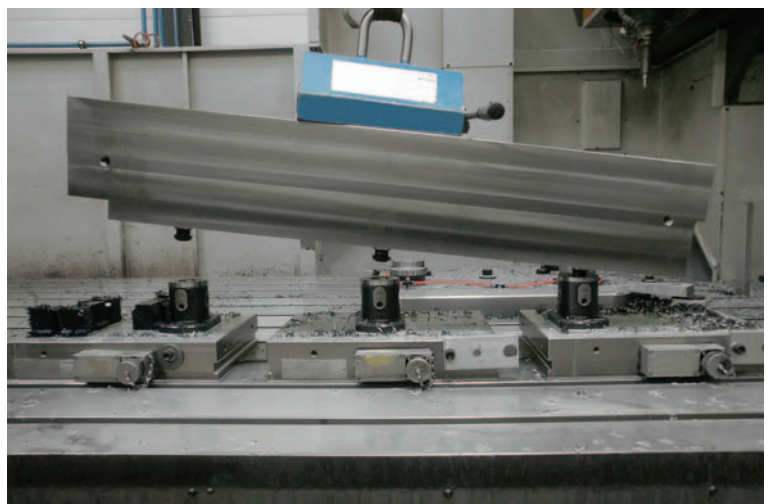
2 basic modules with a centring clamp adapted directly to a zero-point clamping system.

Clamping height 125 mm



Loading procedure for mounting a long and heavy workpiece on 3 basic modules. Clamp spigots are mounted directly on the workpiece. The workpiece is positioned during clamping.

Clamping height 100 mm



UNI lock 5-axis basic module

system size 80 mm

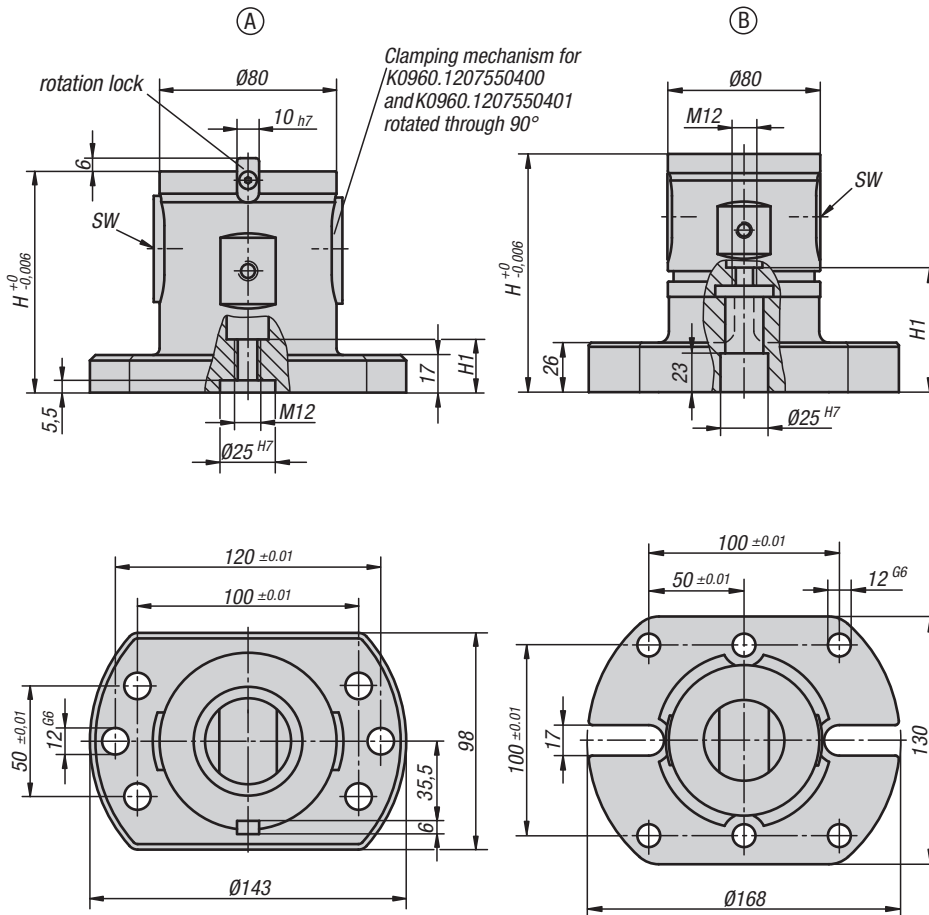


Material:
Steel.

Version:
Main body oxidised.
Contact faces case-hardened and ground.

Sample order:
K0960.1207550400

Note:
The UNI lock 5-axis basic module can be adapted directly to subplates with grid holes or T-slots or to tooling plates with hole pitch of 40/50 mm system size M12. Suitable for UNI lock zero point clamping system with UNI lock clamping bolts. Can also be used on the conventional zero point clamping systems by mounting an appropriate adapter clamping bolt.



KIPP UNI lock 5-axis basic module

Order No.	Form	Version	H	H1	SW	Holding force F kN	Tightening torque max. Nm	weight kg
K0960.1207550400	A	without rotation lock	75	18,5	6	50	15	3,64
K0960.1207550401	A	with rotation lock	75	18,5	6	50	15	3,65
K0960.1210050400	A	without rotation lock	100	24	6	50	15	4,6
K0960.1210050401	A	with rotation lock	100	24	6	50	15	4,601
K0960.12125500	B	-	125	68,5	6	50	15	6,8
K0960.12150500	B	-	150	74	6	50	15	7,8

UNI lock 5-axis basic module double clamp

size 80 mm



Material:

Steel.

Version:

Main body oxidised.

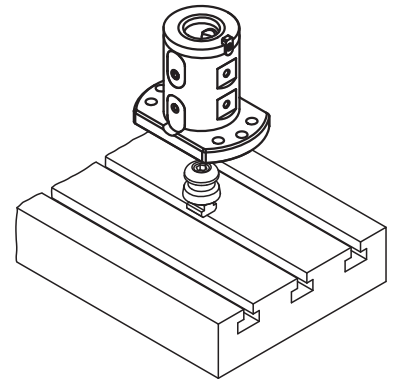
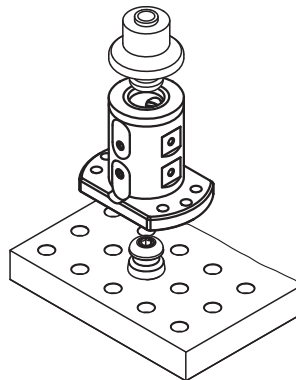
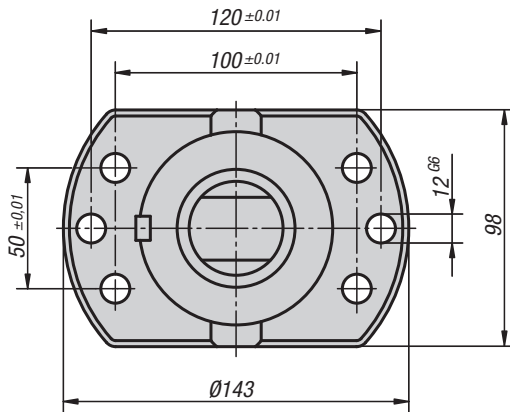
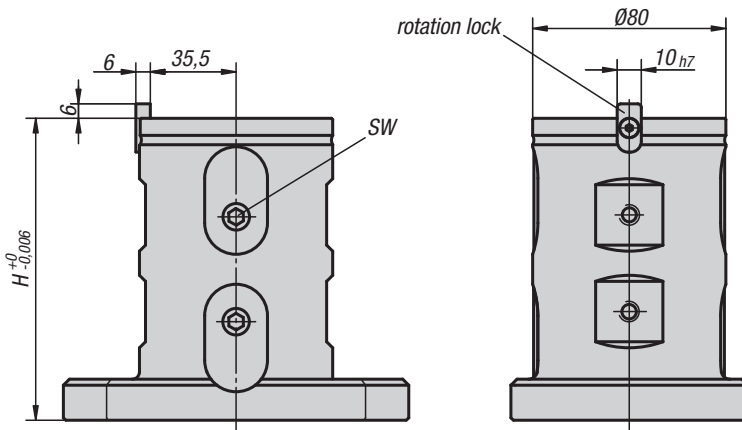
Contact faces case-hardened and ground.

Sample order:

K0961.1212550400

Note:

The UNI lock 5-axis basic module can be adapted directly to subplates with grid holes or T-slots or to tooling plates with hole pitch of 40/50 mm system size M12. Suitable for UNI lock zero point clamping system with UNI lock clamping bolts. Can also be used on the conventional zero point clamping systems by mounting an appropriate adapter clamping bolt.

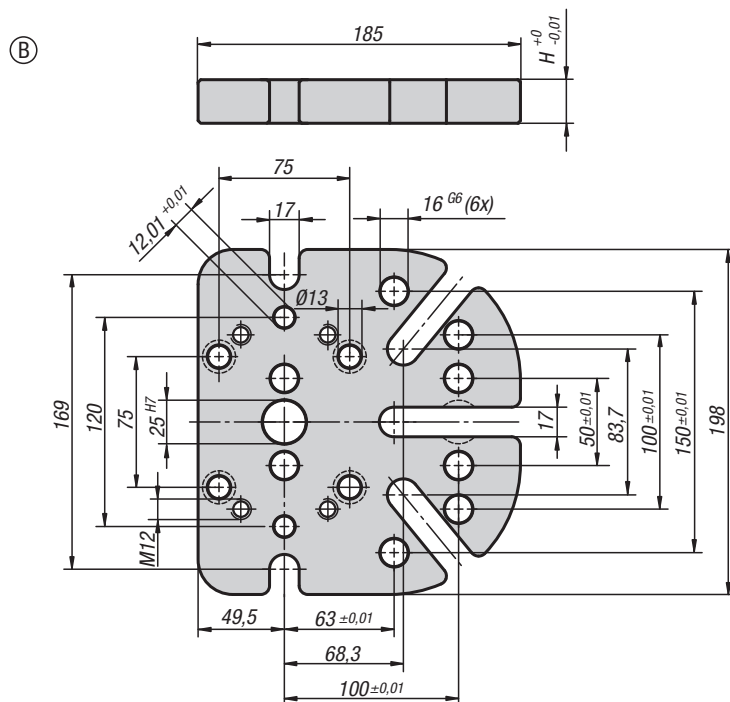
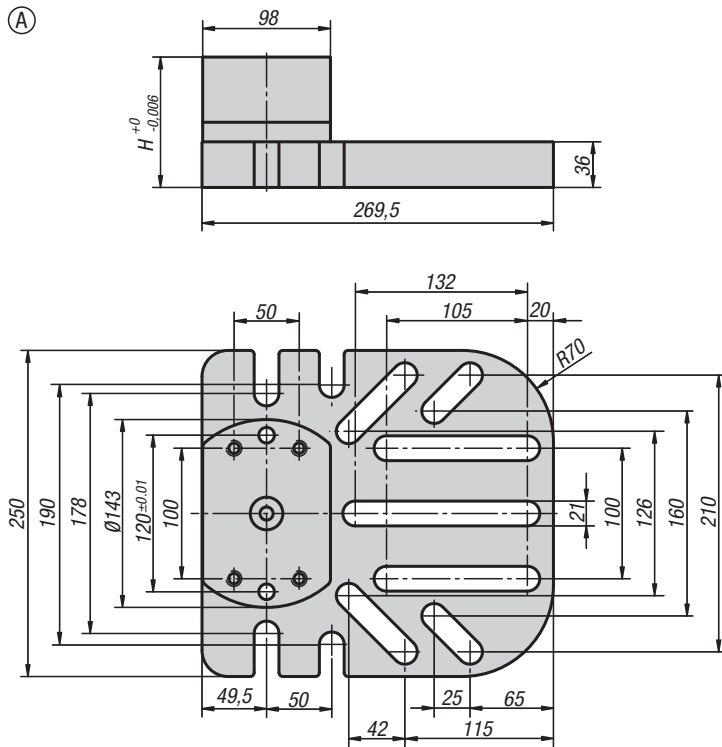


KIPP UNI lock 5-axis basic module double clamp

Order No.	Version	H	SW	Holding force F kN	Tightening torque max. Nm	weight kg
K0961.1212550400	without rotation lock	125	6	50	15	4,96
K0961.1212550401	with rotation lock	125	6	50	15	5,2

UNI lock 5-axis base plate

for general clamping, system size 80 mm

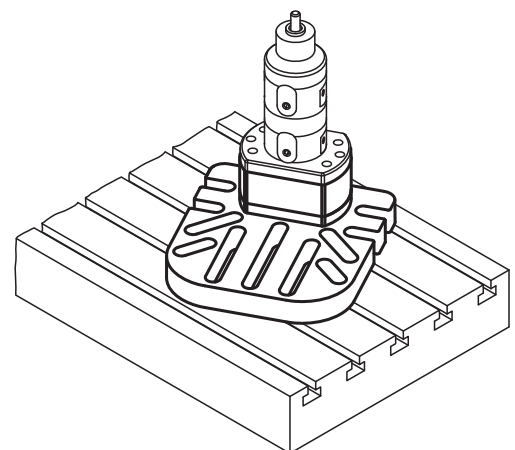


Material:
Steel.

Version:
Main body oxidised.
Contact faces case-hardened and ground.

Sample order:
K0962.25027005021

Note:
The UNI lock 5-axis base plates for general clamping are adapted directly to subplates with grid holes or T-slots or tooling plates. Due to their sturdy construction, these risers are ideal as base elements for large and heavy workpieces. The layout of the fastening keyways allows for a flexible adjustment to the workpiece.

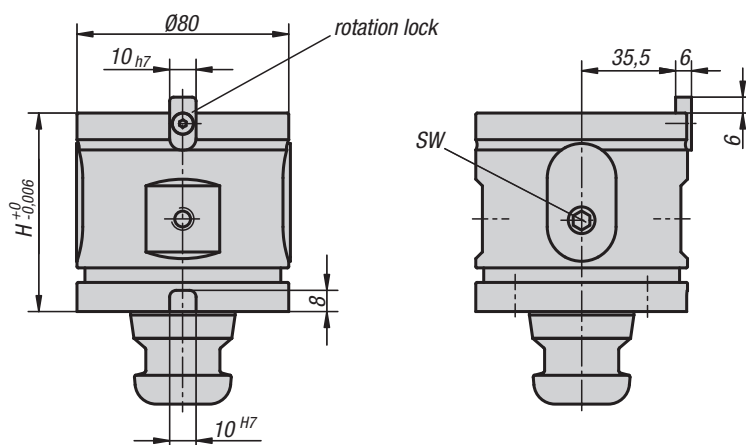


KIPP UNI lock 5-axis base plate for general clamping

Order No.	Form	H	weight kg
K0962.25027005021	A	50	14,7
K0962.25027010021	A	100	19,4
K0962.25027012521	A	125	22,1
K0962.19818502516	B	25	5

UNI lock 5-axis add-on clamping module

size 80 mm



Material:

Steel.

Version:

Main body oxidised.

Contact faces case-hardened and ground.

Sample order:

K0963.120750

Note:

The UNI lock 5-axis add-on modules are used for raising basic modules and mounting base. Depending on the clamping situation, optimum assembly height can be achieved using a combination of the basic module and add-on module.



KIPP UNI lock 5-axis add-on clamping module

Order No.	Version	H	SW	Holding force F kN	Tightening torque max. Nm	weight kg
K0963.120750	without rotation lock	75	6	50	15	2,64
K0963.120751	with rotation lock	75	6	50	15	2,85
K0963.121000	without rotation lock	100	6	50	15	3,78
K0963.121250	without rotation lock	125	6	50	15	4,625

UNI lock 5-axis collet adapter

size 80 mm

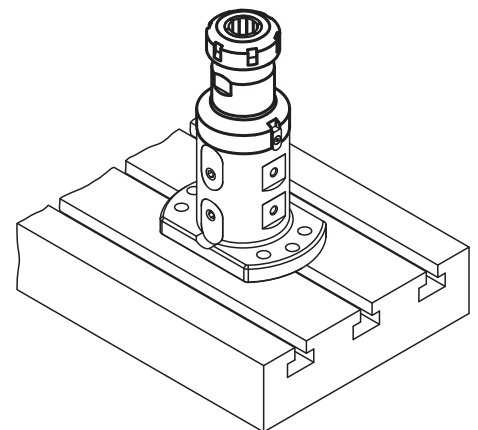
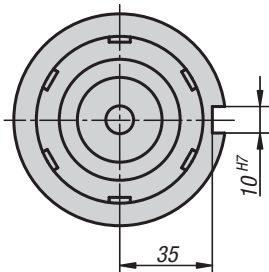
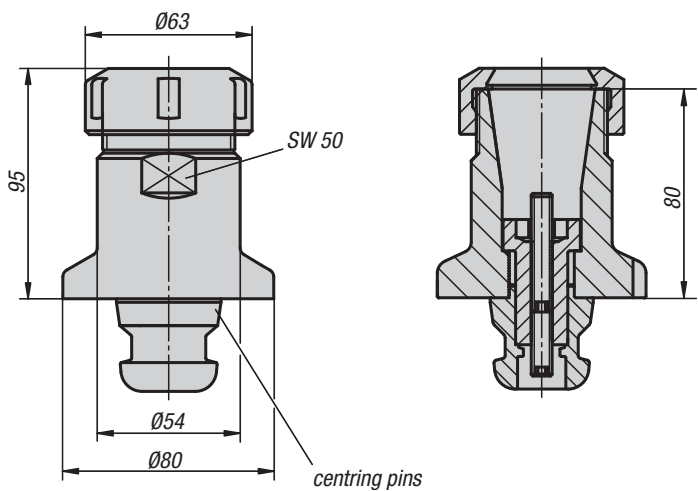


Material:
Steel.

Version:
Main body oxidised.
Contact faces case-hardened and ground.

Sample order:
K0964.25080

Note:
The UNI lock 5-axis collet adapter is suitable for clamping round workpieces. Standard collets with the ER 40 designation can be used. Clamping up to $D=26$ mm. Supplied with adjustable length stop but without collets. The collet adapters can be directly mounted on the basic module with rotation lock or on the add-on module H 75 mm with rotation lock.



KIPP UNI lock 5-axis collet adapter

Order No.

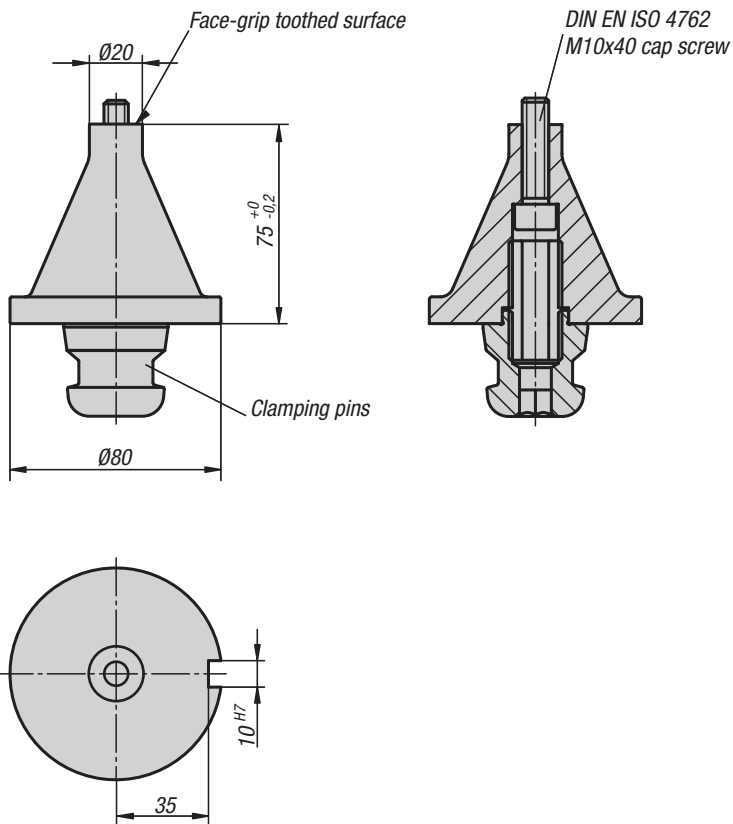
Dimensions

K0964.25080

see drawing

UNI lock 5-axis face-grip adapter

size 80 mm

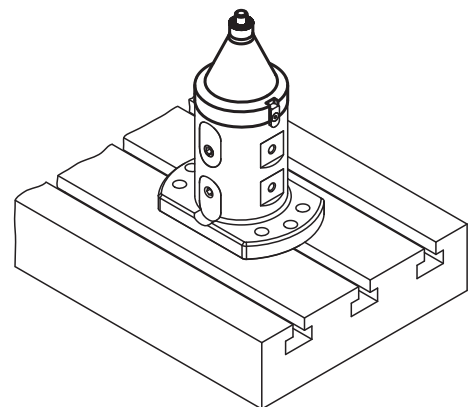


Material:
Steel.

Version:
Main body oxidised.
Contact faces case-hardened and ground.

Sample order:
K0965.2007510

Note:
The UNI lock 5-axis face-grip adapters are suitable for clamping workpieces, which must be machined on all sides. The workpieces are freely accessible without interfering edges from the clamping elements. The workpieces are attached from below using a socket head screw to pull them onto the face-grip toothed surface. The face-grip adapters can be directly mounted on the basic module with rotation lock or on the add-on module H 75 mm with rotation lock.



KIPP UNI lock 5-axis face-grip adapter

Order No.

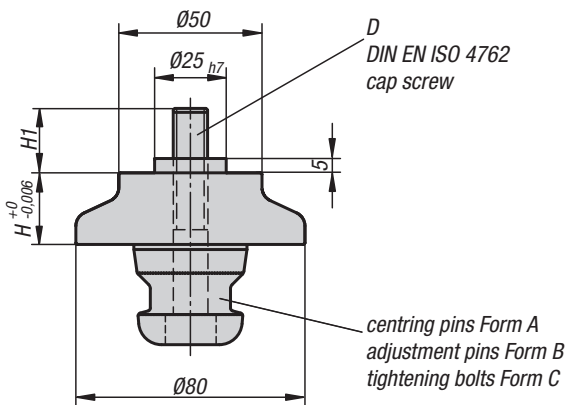
Dimensions

K0965.2007510

see drawing

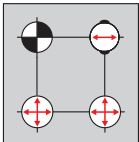
UNI lock 5-axis reducer adapter

size 80 mm



- Centring pins = Form A
- Adjustment pins = Form B
- Tightening bolts = Form C

fixes in x and y axis (reference point)
 fixes the free axis (bayonet pin)
 Pins with undersize (no centring function, clamping only)



Material:

Steel.

Version:

Main body oxidised.

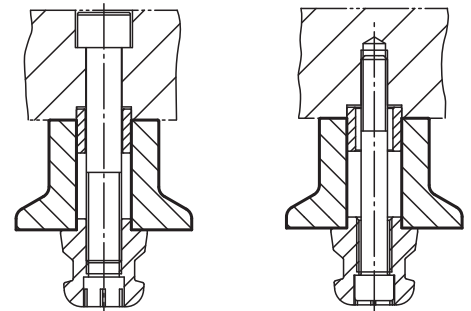
Contact faces case-hardened and ground.

Sample order:

K0966.501120

Note:

The UNI lock 5-axis reducer adapter is suitable for clamping and positioning workpieces. Reducer adapters can be screwed onto the workpiece and mounted on the basic module or add-on module. Reducer adapters are available as hard and soft versions. With the soft version any interfering edges on the adapter that project over the workpiece can be milled off.



KIPP UNI lock 5-axis reducer adapter

Order No. soft	Order No. hard	Form	D	H	H1
K0966.251100	K0966.251101	A	M10 x 75	25	25,5
K0966.252100	K0966.252101	B	M10 x 75	25	25,5
K0966.253100	K0966.253101	C	M10 x 75	25	25,5
K0966.501100	K0966.501101	A	M10 x 100	50	25,5
K0966.502100	K0966.502101	B	M10 x 100	50	25,5
K0966.503100	K0966.503101	C	M10 x 100	50	25,5
K0966.251120	K0966.251121	A	M12 x 75	25	27,5
K0966.252120	K0966.252121	B	M12 x 75	25	27,5
K0966.253120	K0966.253121	C	M12 x 75	25	27,5
K0966.501120	K0966.501121	A	M12 x 100	50	27,5
K0966.502120	K0966.502121	B	M12 x 100	50	27,5
K0966.503120	K0966.503121	C	M12 x 100	50	27,5

UNI lock 5-axis reducer adapter

size 80 mm



Material:

Steel.

Version:

Body oxidised.

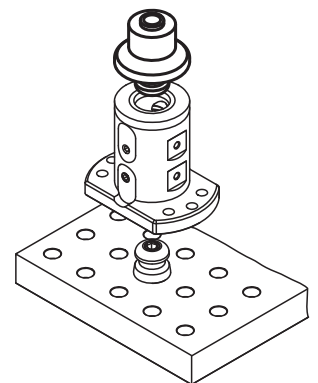
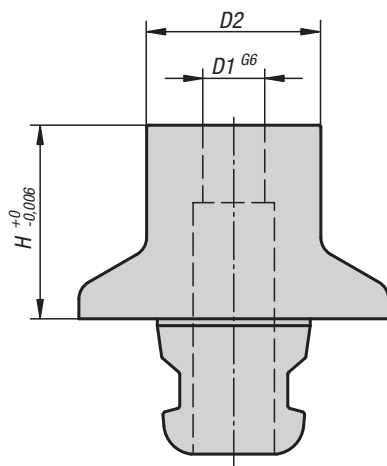
Contact surfaces case-hardened and ground.

Sample order:

K0966.5011611

Note:

The UNI lock 5-axis reducer adapters are suitable for clamping and positioning workpieces. The workpiece is positioned and screwed to the reducer adapter using the UNI lock shoulder screw for workpiece fastening.



KIPP UNI lock 5-axis reducer adapter

Order No.	D1	D2	H
K0966.5011211	12	40	50
K0966.5011611	16	40	50

Angle clamp adapters

size 80 mm

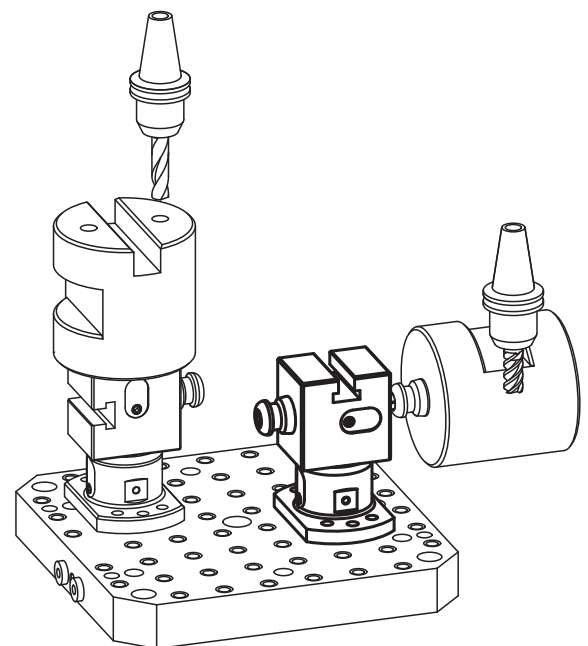
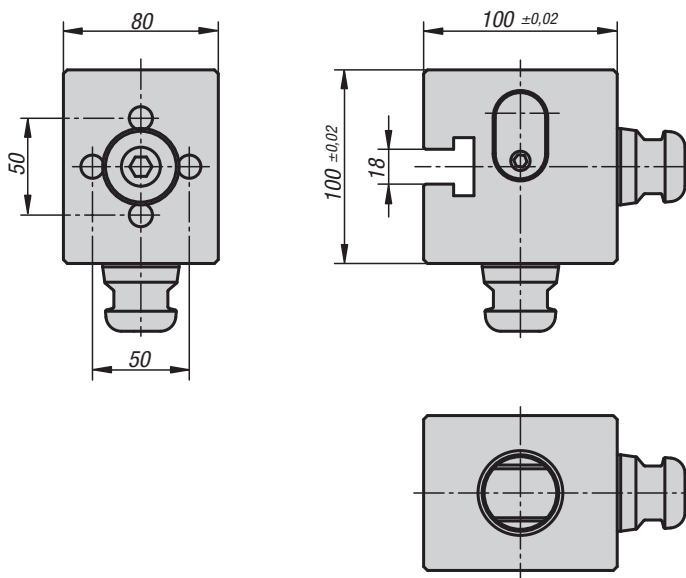


Material:
Steel.

Version:
Main body oxidised.
Contact faces case-hardened and ground.

Sample order:
K1013.100100080

Note:
The angle clamp adapter can be used to process workpieces in different processing levels. In doing so, the workpiece stays mounted on the angle clamping adapter.



KIPP Angle clamping adapter

Order No.	Dimensions	weight kg
K1013.100100080	see drawing	7,2

UNI lock T-slot centring clamp bolt

size 80 mm

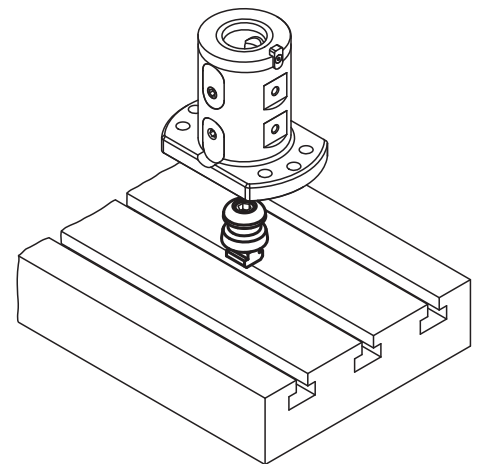
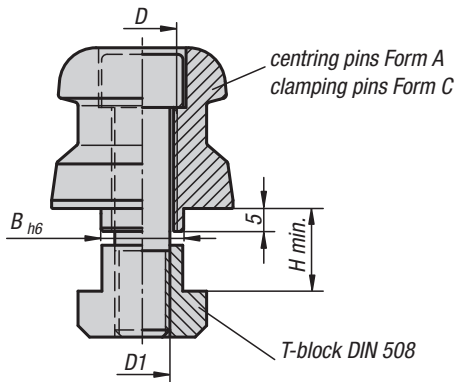


Material:
Steel.

Version:
Hardened and black oxidised.
Contact faces ground.

Sample order:
K0969.114

Note:
The UNI lock T-slot centring clamp bolt is suitable for clamping and positioning the basic module with double manual clamping. T-slot centring clamp bolts are positioned and fastened on the T-slot machine table.

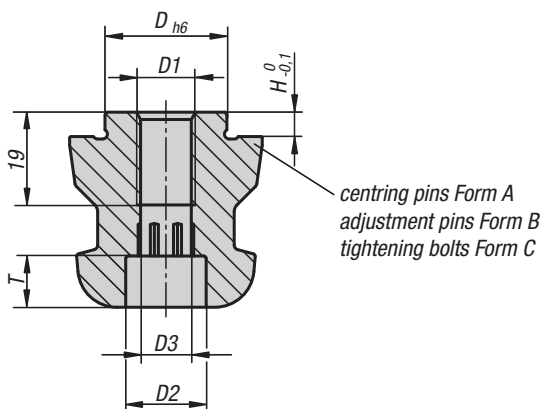
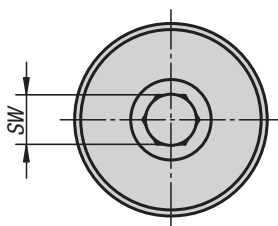


KIPP UNI lock T-slot centring clamp bolt

Order No.	Form	D	D1	B	H min.
K0969.114	A	M12	M10	14	14
K0969.118	A	M16	M12	18	18
K0969.122	A	M16	M12	22	22
K0969.314	C	M12	M10	14	14
K0969.318	C	M16	M12	18	18
K0969.322	C	M16	M12	22	22

UNI lock clamping pin

size 80 mm






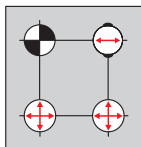
Material:
Steel.

Version:
Hardened and black oxidised.
Contact faces ground.

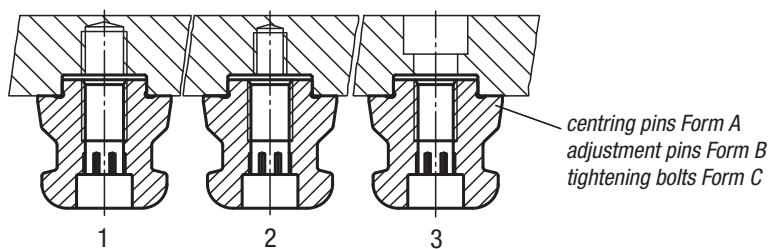
Sample order:
K0967.140160512

Note:
The UNI lock clamping pin is suitable for clamping and positioning workpieces and fixtures. Clamping pins are screwed onto the exchange element and adapted to the various basic modules.

-  Centring pins = Form A fixes in x and y axis (reference point)
-  Adjustment pins = Form B fixes the free axis (bayonet pin)
-  Tightening bolts = Form C Pins with undersize (no centring function, clamping only)



- 1 = fastening with grub screw DIN 913
- 2 = fastening with DIN 912 screw through the tightening bolt
- 3 = fastening with DIN 912 screw through the fixture or workpiece

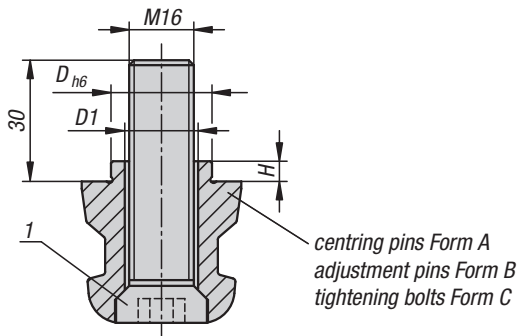


KIPP UNI lock clamping pin

Order No. A	Order No. B	Order No. C	D	D1	D2	D3	H	T	SW
K0967.140160512	K0967.240160512	K0967.340160512	16	M12	16,5	10,3	5	10,5	10
K0967.140180512	K0967.240180512	K0967.340180512	18	M12	16,5	10,3	5	10,5	10
K0967.140200512	K0967.240200512	K0967.340200512	20	M12	16,5	10,3	5	10,5	10
K0967.140220516	K0967.240220516	K0967.340220516	22	M16	18,5	14,2	5	12,5	17
K0967.140240516	K0967.240240516	K0967.340240516	24	M16	18,5	14,2	5	12,5	17
K0967.140250512	K0967.240250512	K0967.340250512	25	M12	16,5	10,3	5	10,5	10
K0967.140250516	K0967.240250516	K0967.340250516	25	M16	18,5	14,2	5	12,5	17
K0967.140251012	K0967.240251012	K0967.340251012	25	M12	16,5	10,3	10	10,5	10
K0967.140251016	K0967.240251016	K0967.340251016	25	M16	18,5	14,2	10	12,5	17

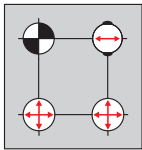
UNI lock clamping pin

with through hole, system size 80 mm



centring pins Form A
adjustment pins Form B
tightening bolts Form C

- Centring pins = Form A fixes in x and y axis (reference point)
- Adjustment pins = Form B fixes the free axis (bayonet pin)
- Tightening bolts = Form C Pins with undersize (no centring function, clamping only)



Material:
Steel.

Version:
Hardened and black oxidised.
Contact faces ground.
Swivel fastening screw M16x65, tempered and black oxidised.

Sample order:
K1471.140250516

Note:
The UNI lock clamping pint is suitable for clamping and positioning workpieces and fixtures. Clamping pins are screwed onto the exchange element and adapted to the various basic modules.

Drawing reference:
1) Swivel fastening screw M16x65.

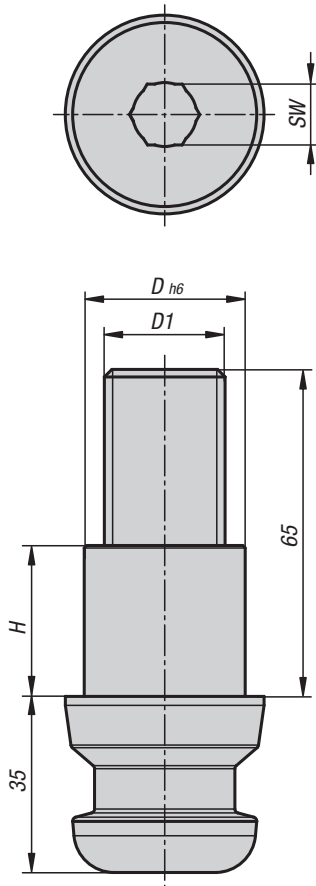


KIPP UNI lock clamping pin with through hole

Order No.	Form	D	D1	H
K1471.140250516	A	25	16,5	5
K1471.240250516	B	25	16,5	5
K1471.340250516	C	25	16,5	5

UNI lock clamping pin

one-piece size 80 mm






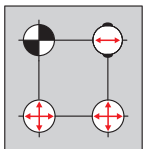
Material:
Steel.

Version:
Hardened and black oxidised.
Contact faces ground.

Sample order:
K0967.140323024

Note:
The UNI lock clamping pin is suitable for clamping and positioning workpieces and fixtures. Clamping pins are screwed onto the exchange element and adapted to the various basic modules.

-  Centring pins = Form A fixes in x and y axis (reference point)
-  Adjustment pins = Form B fixes the free axis (bayonet pin)
-  Tightening bolts = Form C Pins with undersize (no centring function, clamping only)

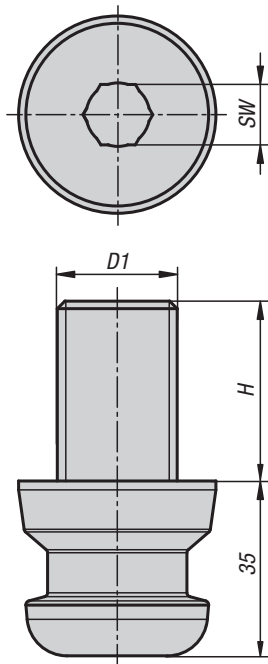


KIPP UNI lock clamping pin, one-piece

Order No.	Form	D1	D	H	SW
K0967.140323024	A	M24	32	30	17
K0967.240323024	B	M24	32	30	17
K0967.340323024	C	M24	32	30	17

UNI lock clamping pin

with threaded pin size 80 mm



Material:

Steel.

Version:




Hardened and black oxidised.
Contact faces ground.

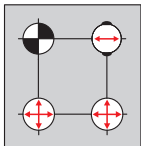
Sample order:

K0967.140003020

Note:

The UNI lock clamping pin is suitable for clamping and positioning workpieces and fixtures. Clamping pins are screwed onto the exchange element and adapted to the various basic modules.

-  Centring pins = Form A fixes in x and y axis (reference point)
-  Adjustment pins = Form B fixes the free axis (bayonet pin)
-  Tightening bolts = Form C Pins with undersize (no centring function, clamping only)

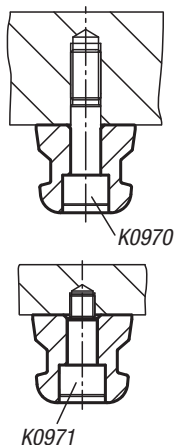
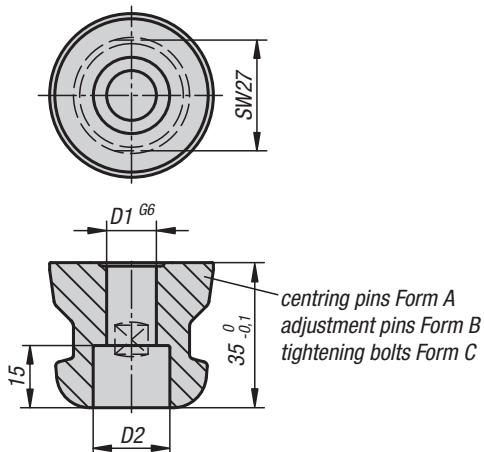


KIPP UNI lock clamping pin with threaded pin

Order No.	Form	D1	H	SW
K0967.140002416	A	M16	24	17
K0967.140003020	A	M20	30	17
K0967.140003624	A	M24	36	17

UNI lock clamping bolts

for fastening to workpieces size 80 mm



Material:
Steel.

Version:
Hardened and black oxidised.
Contact faces ground.

Sample order:
K0968.12

Note:

The UNI lock clamping bolt is suitable for clamping and positioning the workpiece. Clamping bolts are screwed onto the workpiece and positioned on the basic module or add-on module. Using the locating bolts (K0970, K0971), the clamping bolts are screwed onto the workpiece.

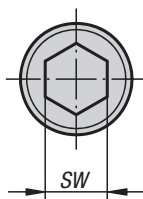
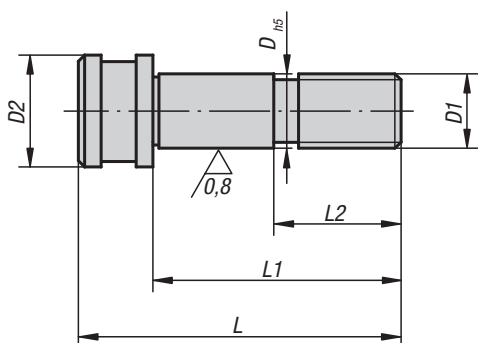
KIPP UNI lock clamping bolts for fastening to workpieces

Order No.	Form	D1	D2
K0968.12	A	12	18,4
K0968.16	A	16	21,1
K0968.212	B	12	18,4
K0968.216	B	16	21,1
K0968.312	C	12	18,4
K0968.316	C	16	21,1

K0970

UNI lock 5-axis shoulder screws

size 80 mm



Material:
Carbon steel.

Version:
Hardened surface.
ground locating seat.

Sample order:
K0970.12050

Note:

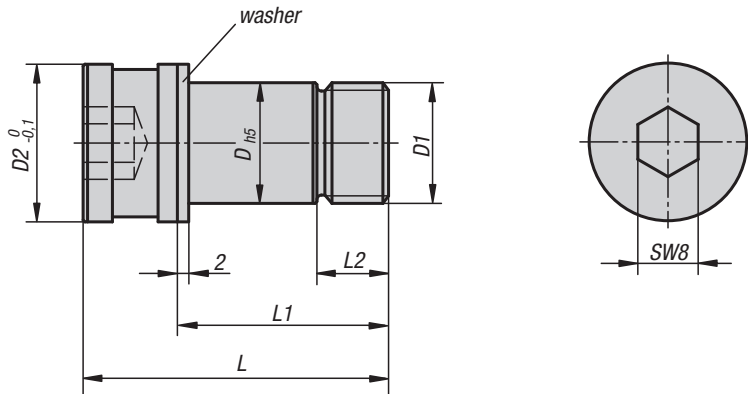
The UNI lock 5-axis locating bolts are suitable for clamping and positioning the clamping bolts for fastening to workpieces. They are also used for positioning and fastening the basic module.

KIPP UNI lock 5-axis shoulder screws

Order No.	D	D1	D2	L	L1	L2	SW
K0970.12050	12	M12	18	62	50	22	10
K0970.16055	16	M16	20,9	71	55	25	14

UNI lock 5-axis shoulder screws

for fastening to workpieces size 80 mm

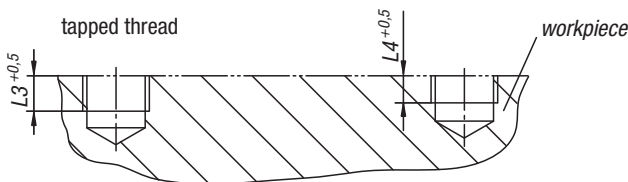
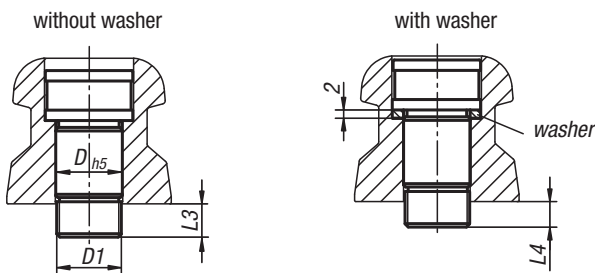


Material:
Carbon steel.

Version:
Hardened surface.
ground locating seat.

Sample order:
K0971.1210040

Note:
The UNI lock 5-axis locating bolts for fastening to workpieces are suitable for clamping and positioning workpieces. These locating bolts are passed through the clamping bolts for fastening to workpieces, screwed directly into the workpiece and positioned on the basic module or add-on module. The thread is used for fastening and positioning the workpiece.



KIPP UNI lock 5-axis shoulder screws for screwing clamping bolt to workpiece

Order No.	Version	D	D1	D2	L	L1	L2	L3	L4
K0971.1210040	with washer	12	M10x1,25	18	40,5	28	9,5	8	6
K0971.12101040	with washer	12	M10x1,5	18	40,5	28	9,5	8	6
K0971.1212040	with washer	12	M12x1,25	18	40,5	28	9,5	8	6
K0971.12121040	with washer	12	M12x1,75	18	40,5	28	9,5	8	6
K0971.1612040	with washer	16	M12x1,25	20,9	40,5	28	9,5	8	6
K0971.16121040	with washer	16	M12x1,75	20,9	40,5	28	9,5	8	6
K0971.16121049	without washer	16	M12x1,75	20,9	50	37,5	18	17,5	15,5
K0971.1616040	with washer	16	M16x1,25	20,9	40,5	28	9,5	8	6
K0971.16161040	with washer	16	M16x2	20,9	40,5	28	9,5	8	6
K0971.16161055	without washer	16	M16x2	20,9	56	43,5	24	23,5	21,5
K0971.16161067	without washer	16	M16x2	20,9	67,5	55	25	35	33

Centring clamping bolt

size 80 mm



Material:

Steel.

Version:

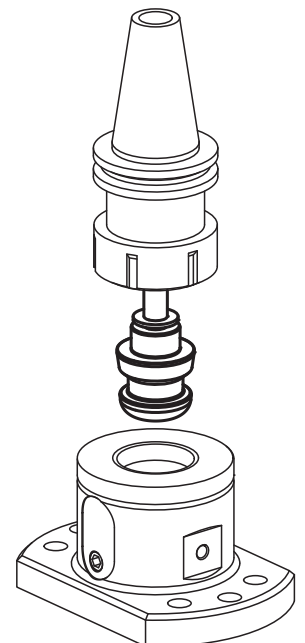
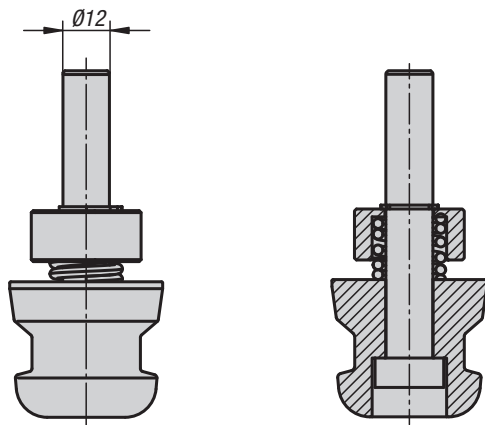
Hardened and black oxidised.
Contact faces ground.

Sample order:

K1012.1240

Note:

The centering clamping bolt can be used to position basic modules on machine tables. Centring clamping bolts can be clamped in collet holders. The position of the module is defined via the machine's spindle/control unit.

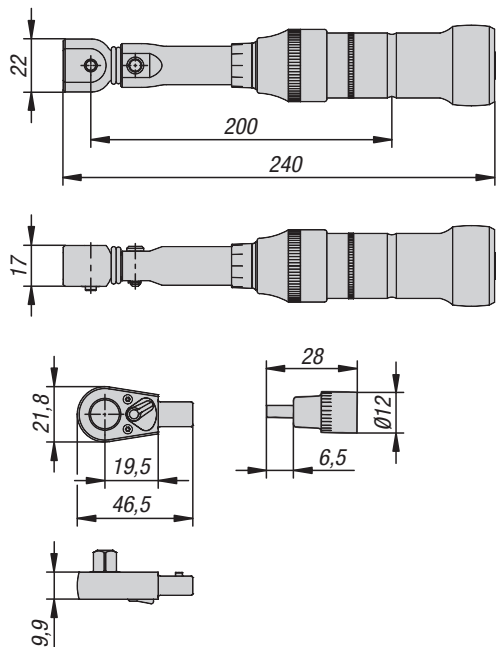


KIPP Centring clamping bolt

Order No.	Dimensions
K1012.1240	see drawing

Torque wrench

for 5-axis module clamping system



Supplied with:

Set comprising:
Torque wrench
Plug-in reversible ratchet
Screwdriver insert SW4
Screwdriver insert SW6
Screwdriver insert SW8

Functional principle:

Operating principle of torque wrench handles
To unlock, pull handle back approximately 8 mm.
Continue to turn handle up to the desired torque.
Then turn the handle back a bit to lock it.

Suitable for:

5-axis module clamping system 80
5-axis module clamping system 50
5-axis module clamping system 138

KIPP Torque wrench for 5-axis module clamping system

Material:

Steel.

Version:

Surface: hard chromed

Sample order:

K1488.01

Note:

Torque wrench 4-40 set:
Release precision +/- 2% of the scale value (in direction of actuation)
High-precision premium metrology instrument – for highest demands
Robust and tough hard chrome-plated steel construction in a slim model
Secure: - haptic (shortcut release)
- acoustic (buckling element)
User-friendly reversible ratchet.
Service-friendly (ratchet repair sets for customer-oriented self-assembly)
Integrated switch lever
Setting of the desired torque value fast and securely through turning of the handle
Twist knob for additional locking of the setting
Ergonomically shaped handle with collar reduces danger of slipping or injury
Exact, fine scale gradation
With serial number and calibration certificate
Hard chrome-plated surface
DIN EN ISO 6789-2:2017, square acc. to DIN 3120, ISO 1174-1

Details of plug-in reversible ratchet:

20 teeth, max. 40Nm
Output 6.3 = 1/4 inch
Square acc. to DIN 3120, ISO 1174-1
Drop forged
Chromed surface

Note for plug-in reversible ratchet:

Through fast insertion of the plug-in reversible ratchet into the torque wrench, the precision of 2% in both directions can be guaranteed.

Screwdriver bit:

Surface TiN
DIN 7422
Square 1/4 inch
Suitable for reversible ratchet

Recommendation:

Annual check interval for torque wrenches, in which the upper limit is 5,000 load cycles.

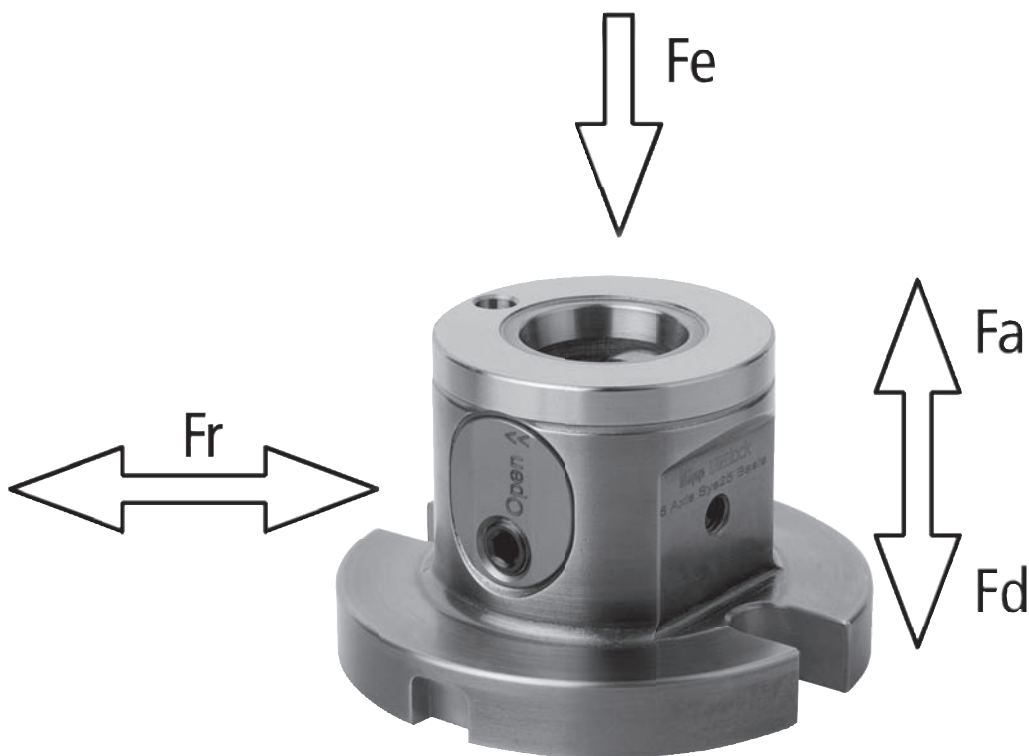
Order No.	Item	Version 1	Product type	Torque Nm
K1488.01	torque wrench	set	revolving grip	4 - 40

5-axis module clamping system 50



Forces

System size 50 mm



- Fr** Permissible transverse force
- Fa** Permissible clamping force
- Fd** Permissible contact force
- Fe** Clamping bolt pull-in force

Permissible load with full contact:

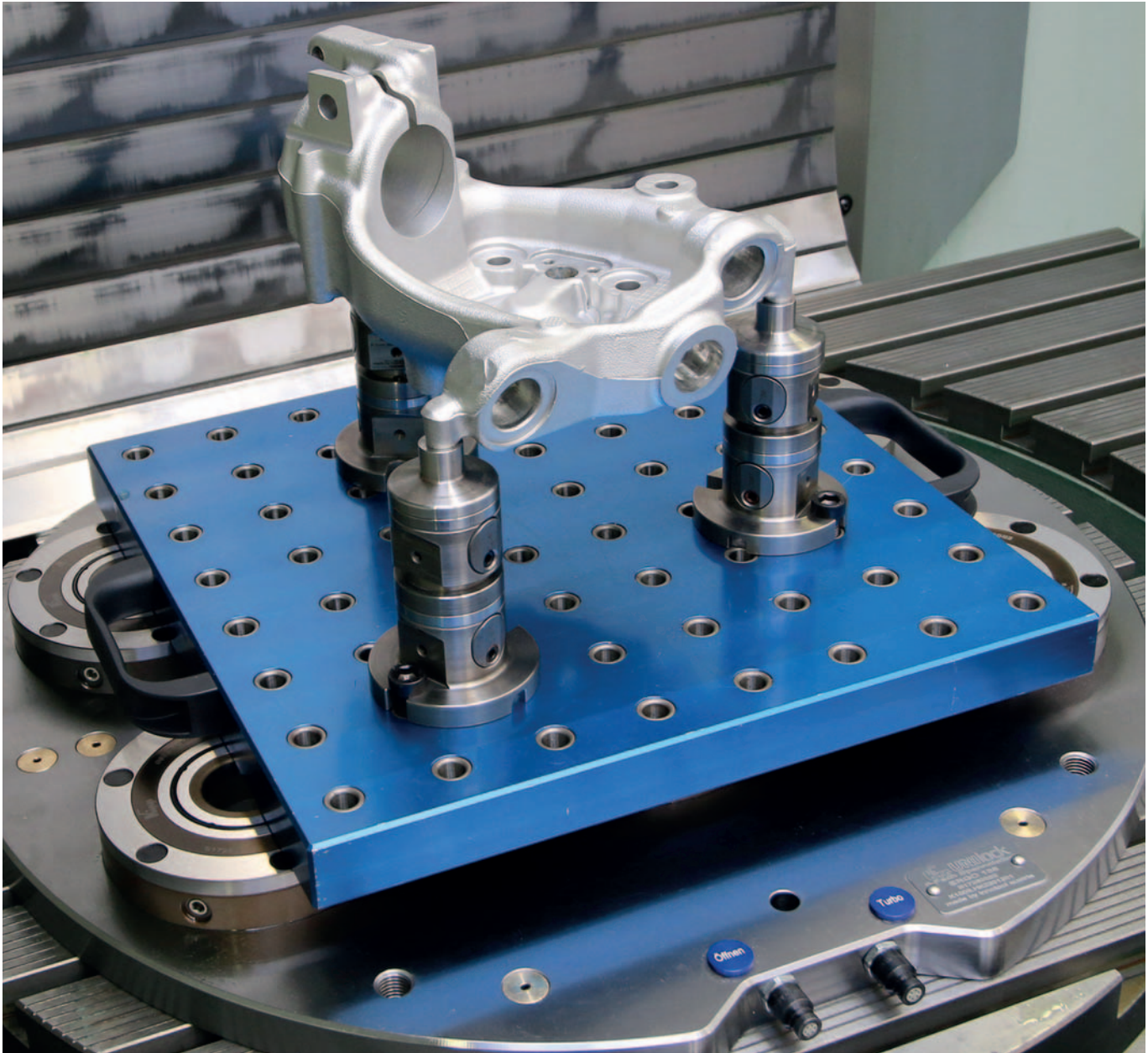
		Fr	Fa	Fd	Fe
Clamping pin screw M6	kN	15	20	25	8
Clamping pin screw M8	kN	15	25	25	10
Clamping pin screw M10	kN	15	30	25	12

Note: Forces apply at a max. tightening torque of 10 Nm.

Function



The UNI lock clamping system 50 mm has been developed specifically for 5-side machining of small workpieces.



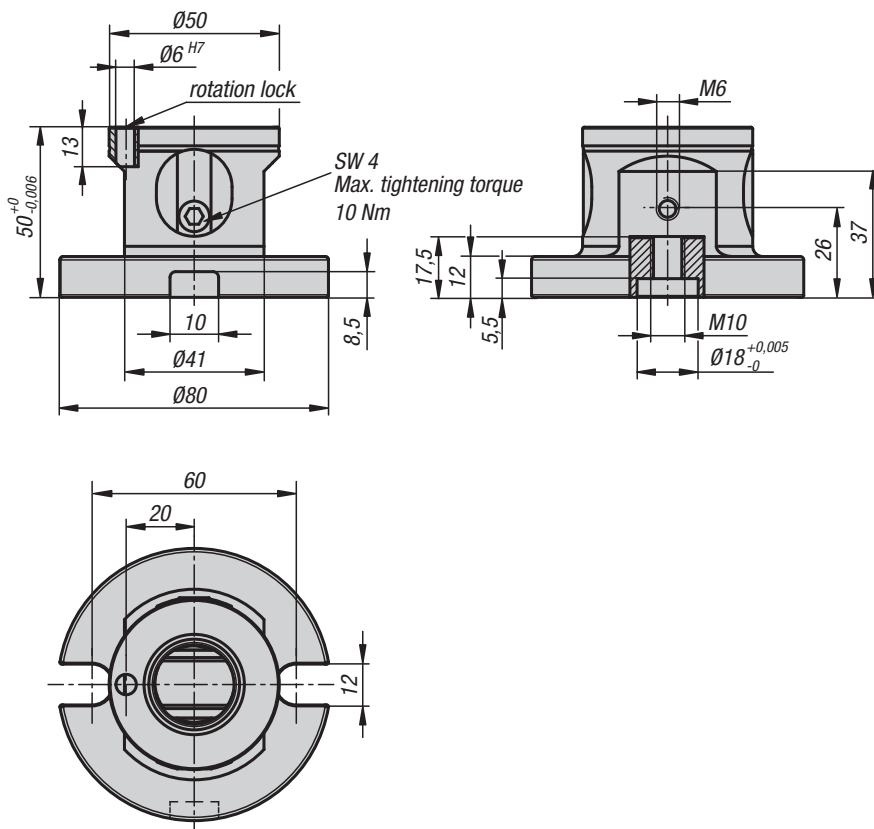
Advantages:

- 5-side machining with no protruding edges
- Modular construction guarantees maximum flexibility
- Can be combined with the UNI lock modular system 80 mm
- Small gauges for modules from 40 mm possible
- Small clamping pin, D 25 mm, for workpieces with smaller dimensions
- Variable workpiece fastening
- The workpiece is simply positioned and clamped with screws or seatings
- High module clamping force
- Very high repeat accuracy



UNI lock 5-axis basic module

system size 50 mm

**Material:**

Rust resistant tool steel.

Version:

Contact faces hardened and ground.

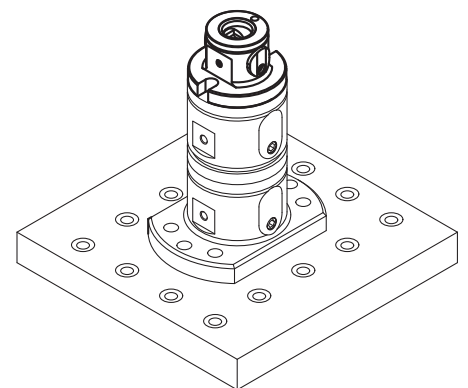
Sample order:

K1117.12050601

Note:

The UNI lock 5-axis basic module, system size 50 can be adapted to mount on machine tables with grid holes or T-slots, or on grid hole subplates. The system size 50 basic module can also be combined with the system size 80 modules, allowing smaller workpieces to be easily clamped with the module clamping system.

Matches UNI lock zero point clamping system with UNI lock D=18 mm clamping bolts. Can also be mounted directly onto commonly available zero point clamping systems using suitable clamping bolts.



KIPP UNI lock 5-axis basic module, system size 50 mm

Order No.

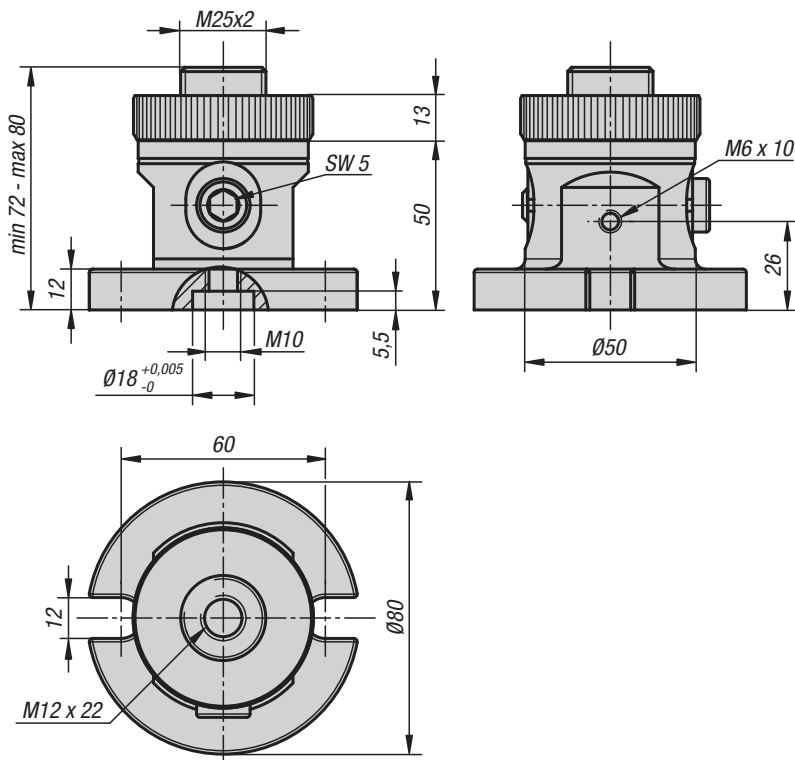
Version

K1117.12050601

rotation lock

UNI lock 5-axis basic module adjustable

system size 50 mm

**Material:**

Rust resistant tool steel.

Version:

Contact faces hardened and ground.

Sample order:

K1117.12072600

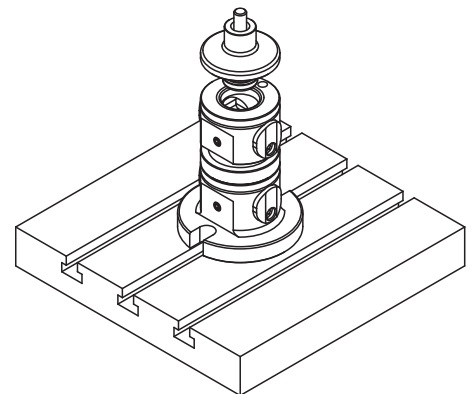
Note:

The UNI lock 5-axis basic module, system size 50 can be adapted to mount on machine tables with grid holes or T-slots, or on grid hole subplates. The system size 50 basic module can also be combined with the system size 80 modules, allowing smaller workpieces to be easily clamped with the module clamping system.

Matches UNI lock zero point clamping system with UNI lock D=18 mm clamping pins.

Can also be mounted directly onto commonly available zero point clamping systems if a suitable clamping pin is used.

Height adjustment with brass ring. Locking with a lateral lock screw. Workpieces with varying support face heights can be optimally supported and clamped.



KIPP UNI lock 5-axis basic module adjustable, system size 50 mm

Order No.

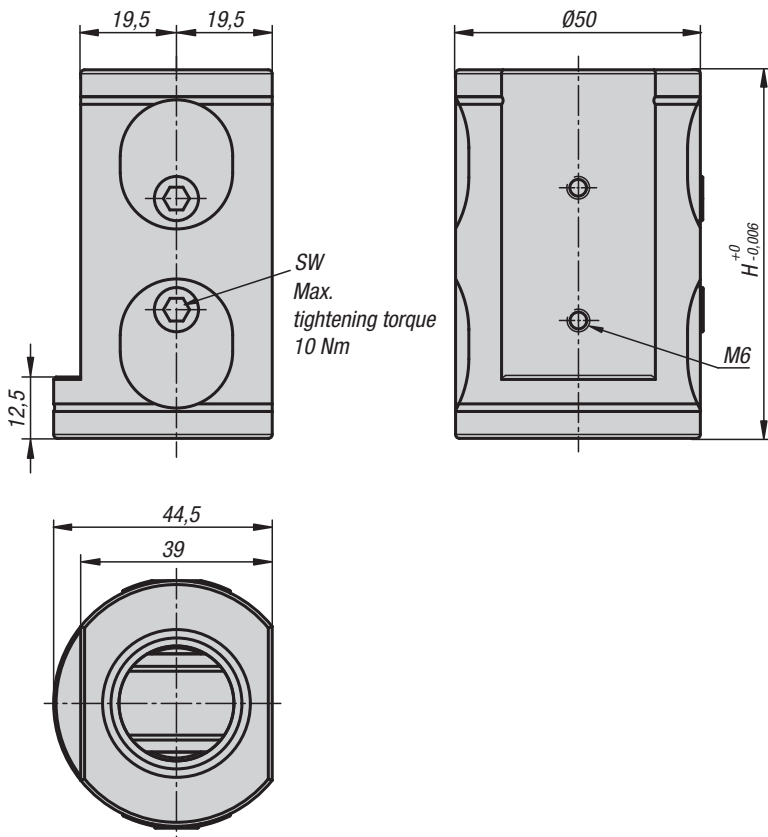
Version

K1117.12072600

adjustable

UNI lock 5-axis basic module double clamp

system size 50 mm



Material:

Rust resistant tool steel.

Version:

Contact faces hardened and ground.

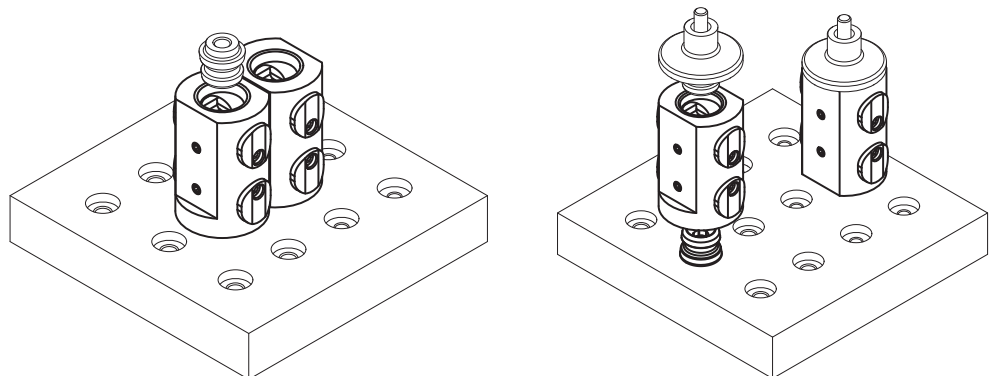
Sample order:

K1118.000750

Note:

The UNI lock 5-axis double clamp basic modules can be adapted directly to machine tables with grid holes or T-slots, as well as grid hole subplates.

The narrow design of the basic module enables it to be used on grid spacings from 20 mm.

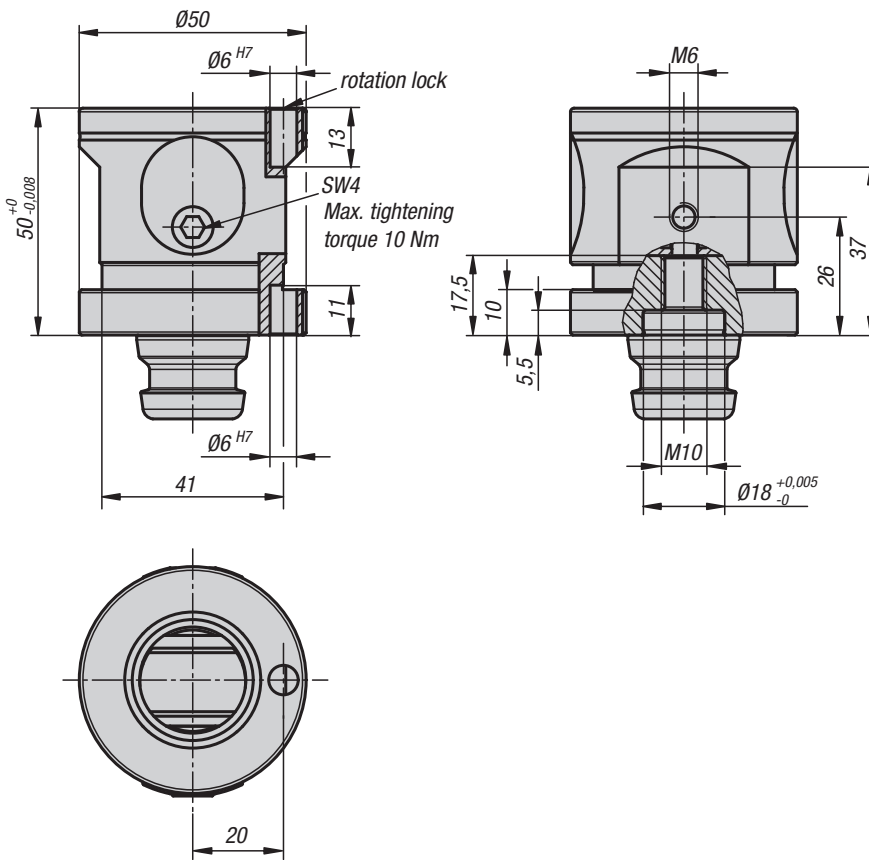


KIPP UNI lock 5-axis basic module, double clamp, system size 50 mm

Order No.	H	SW
K1118.000750	75	4

UNI lock 5-axis add-on module

system size 50 mm



Material:

Rust resistant tool steel.

Version:

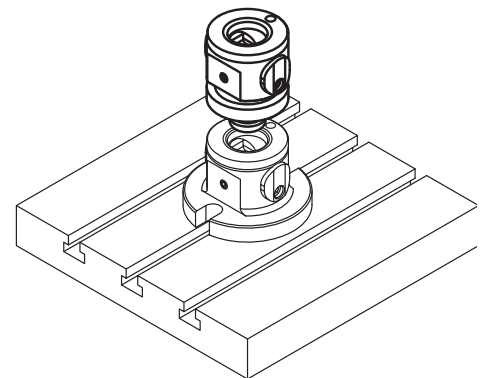
Contact faces hardened and ground.

Sample order:

K1119.0501

Note:

The UNI lock 5-axis add-on modules serve to raise the height of the basic modules and other add-on modules. Depending on the clamping situation, a combination of the basic modules and the add-on modules can be used to achieve the optimum clamping height. The system size 50 add-on module can also be combined with the system size 80.



KIPP UNI lock 5-axis add-on module, system size 50 mm

Order No.	Version
K1119.0501	rotation lock

UNI lock 5-axis add-on module adjustable

system size 50 mm

**Material:**

Rust resistant tool steel.

Version:

Contact faces hardened and ground.

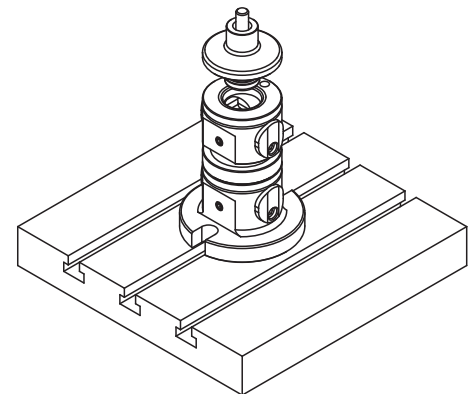
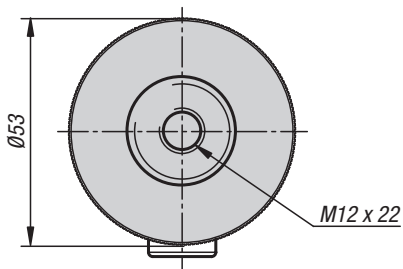
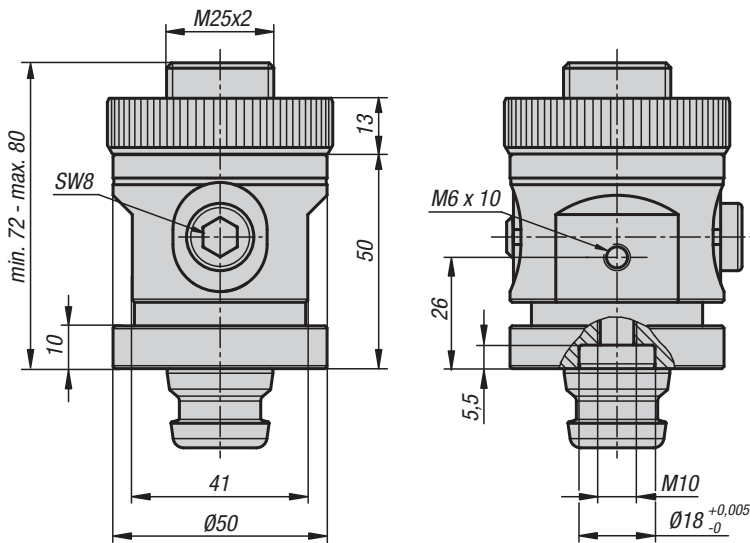
Sample order:

K1119.0720

Note:

UNI lock 5-axis add-on clamp modules are used for raising basic modules and mounting bases. Depending on the clamping situation, optimum assembly height can be achieved using a combination of basic module and add-on module. The system size 50 add-on module can also be combined with the system size 80.

Height adjustment with brass ring. Locking with a lateral lock screw. Workpieces with varying support face heights can be optimally supported and clamped.



KIPP UNI lock 5-axis add-on module adjustable, system size 50 mm

Order No.	Version
K1119.0720	adjustable

UNI lock 5-axis reducer adapter

system size 50 mm

**Material:**

Rust resistant tool steel.

Version:

Contact faces hardened and ground.

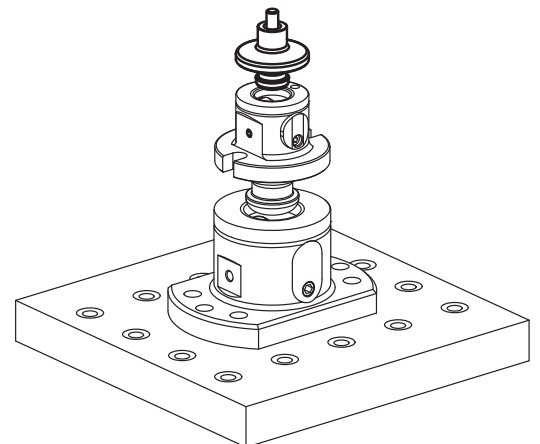
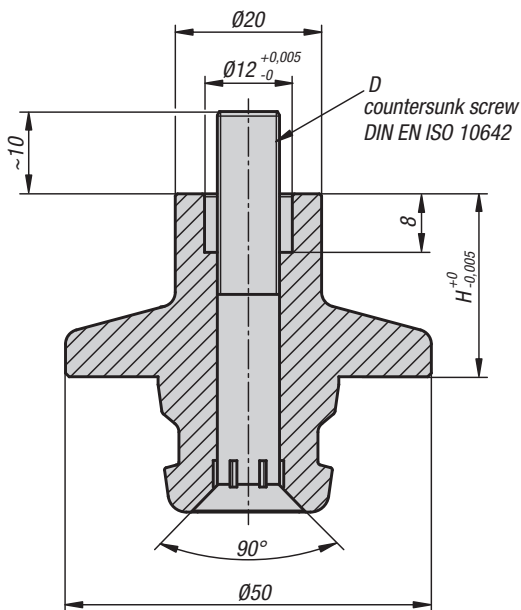
Sample order:

K1120.251081

Note:

The UNI lock 5-axis reducer adapter is suitable for clamping and positioning workpieces. Reducer adapters can be screwed onto the workpiece and mounted on the basic module or add-on clamp module.

The system size 50 add-on module can also be combined with the system size 80.

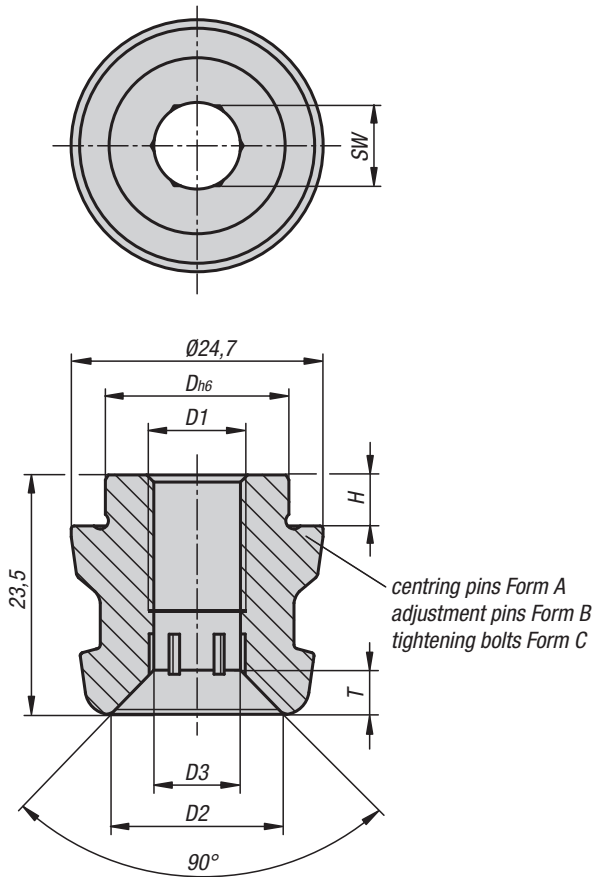


KIPP UNI lock 5-axis reducer adapter, system size 50 mm

Order No.	Form	D	H
K1120.251081	A	M8	25
K1120.501081	A	M8	50

UNI lock clamping pin

system size 50 mm



Material:

Rust resistant tool steel.

Version:




Contact faces hardened and ground.

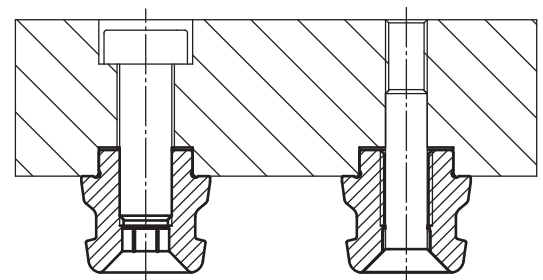
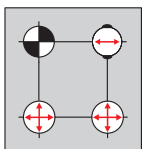
Sample order:

K1121.125180510

Note:

The UNI lock clamping pin is suitable for clamping and positioning workpieces and fixtures. Clamping pins are screwed onto the exchange element and adapted to the various basic modules.

-  Centring pins = Form A fixes in x and y axis (reference point)
-  Adjustment pins = Form B fixes the free axis (bayonet pin)
-  Tightening bolts = Form C Pins with undersize (no centring function, clamping only)

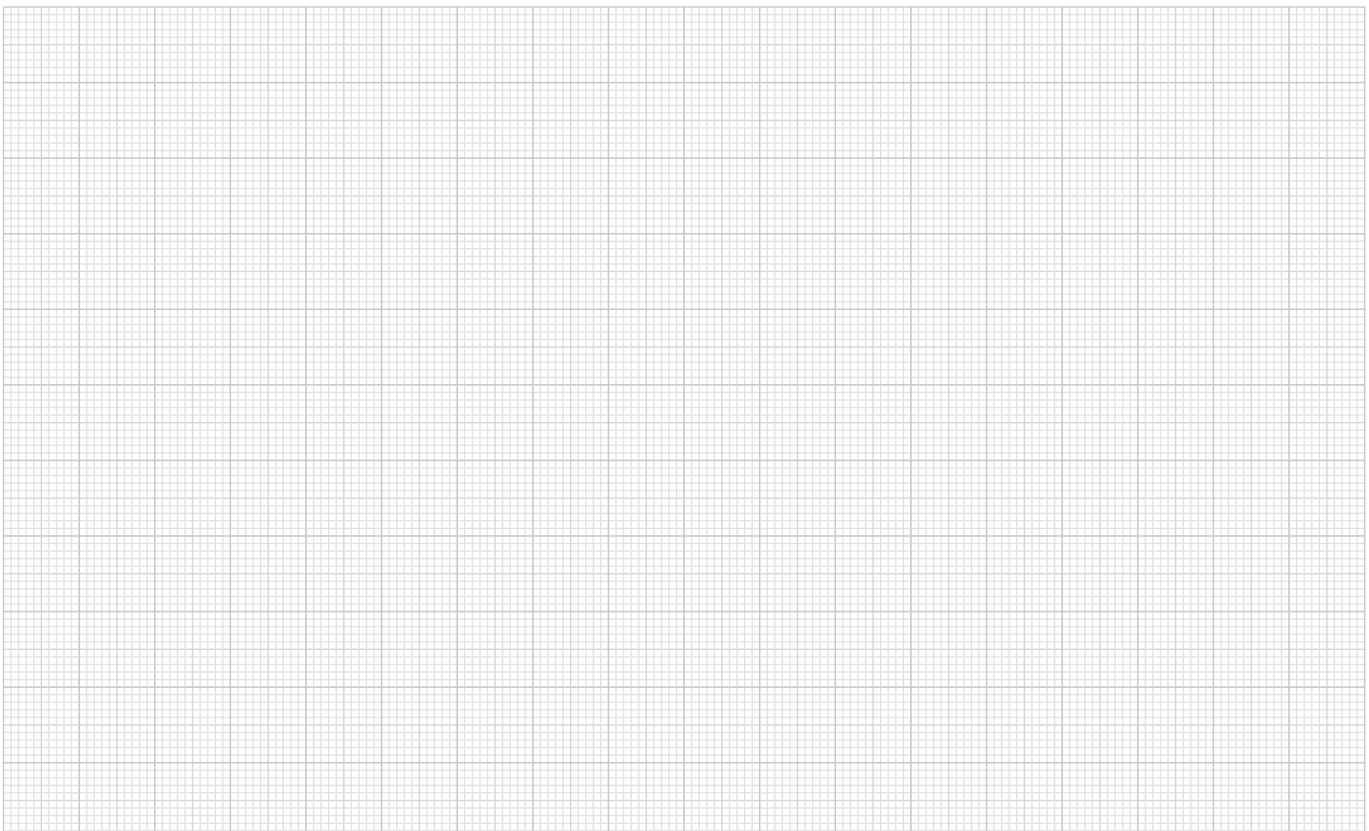


KIPP UNI lock clamping pin, system size 50 mm

Order No.	Form	D1	D	D2	D3	H	T	SW
K1121.125180510	A	M10	18	16,5	9	5	5	8
K1121.225180510	B	M10	18	16,5	9	5	5	8
K1121.325180510	C	M10	18	16,5	9	5	5	8



Notes

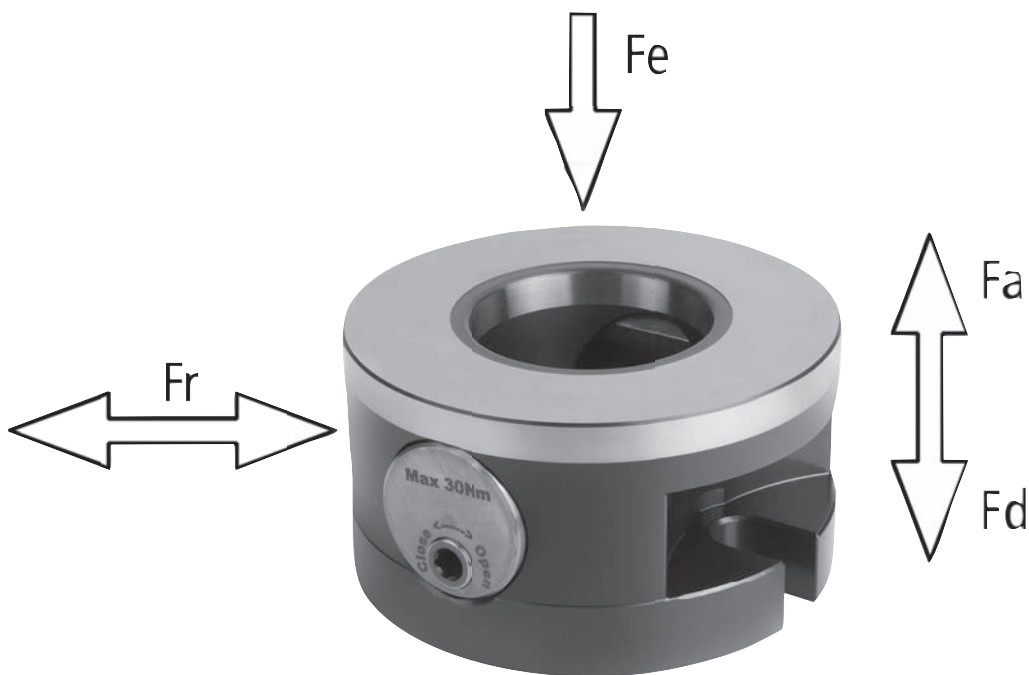


5-axis module clamping system 138



Forces

System size 138 mm



- Fr** Permissible transverse force
- Fa** Permissible clamping force
- Fd** Permissible contact force
- Fe** Clamping bolt pull-in force

Permissible load with full contact:

		Fr	Fa	Fd	Fe
Clamping pin screw M24	kN	60	100	100	40

Note: Forces apply at a max. tightening torque of 30 Nm.

UNI lock 5-axis basic module

system size 138 mm



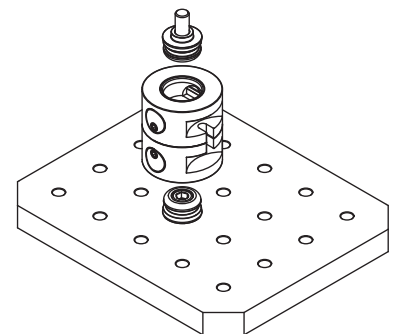
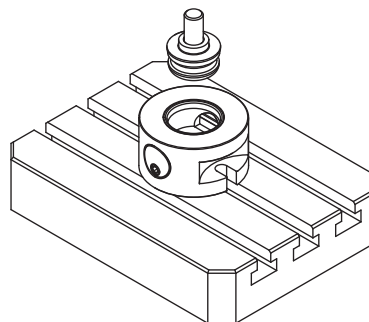
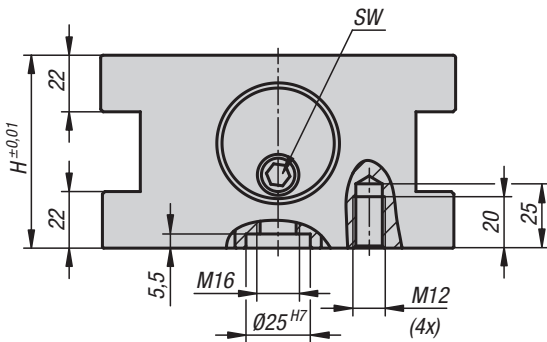
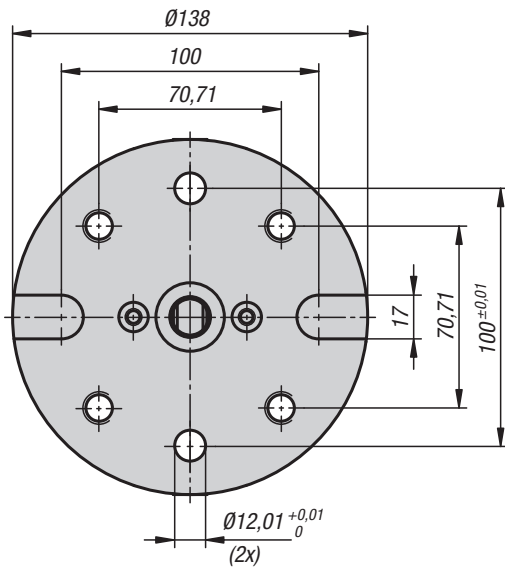
Material:
Steel.

Version:
Main body oxidised.
Contact faces case-hardened and ground.

Sample order:
K1419.1380750

Note:

The UNI lock 5-axis basic modules in size 138 are suitable for clamping large and heavy workpieces. The workpieces can be inserted directly into the basic module with the clamping pin or with the reducer adapter. The basic modules are screwed in place via the associated baseplates or directly to the machine table. They can be positioned in various ways. By placing two modules together, base to base, it is possible to create and use a double clamping module.



KIPP UNI lock 5-axis basic module, system size 138 mm

Order No.	Version	H	SW	Tightening torque max. Nm
K1419.1380750	without rotation lock	75	8	30

UNI lock 5-axis baseplate

for general clamping, size 138 mm

**Material:**

Steel.

Version:

Main body oxidised.

Contact faces case-hardened and ground.

Sample order:

K1420.23523505025

Note:

The UNI lock baseplates can be easily mounted on T-slot or grid plate machine tables. Due to their variable designs, these baseplates can be positioned anywhere on the machine table enabling every part of the machine table to be used.

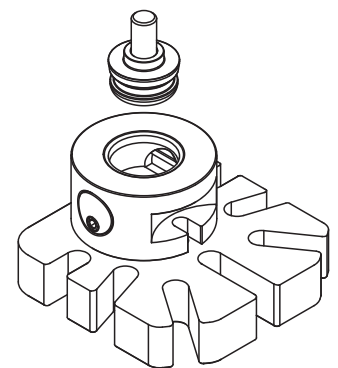
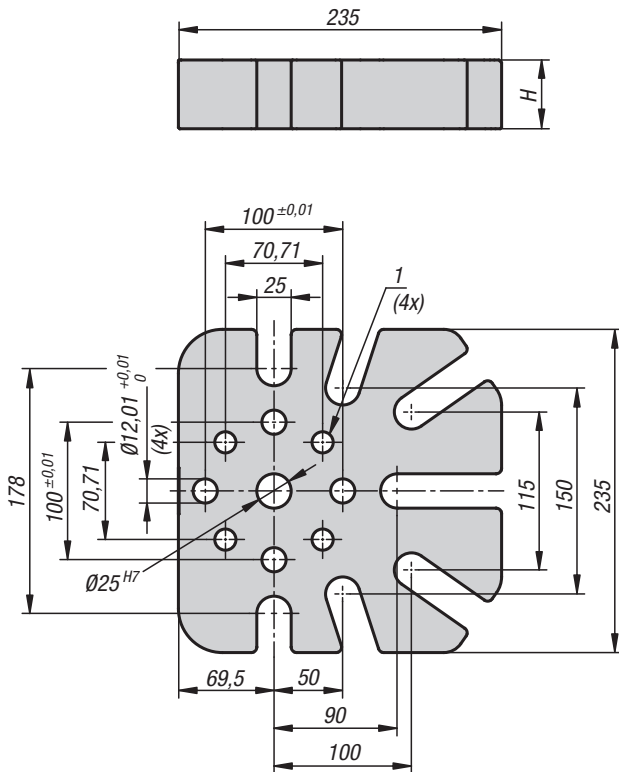
Due to their sturdy design, these baseplates are ideal for use as a basic element for large and heavy workpieces.

On request:

Other versions.

Drawing reference:

1) for DIN 912 M12 cap screw



KIPP UNI lock 5-axis baseplate for general clamping, size 138 mm

Order No.

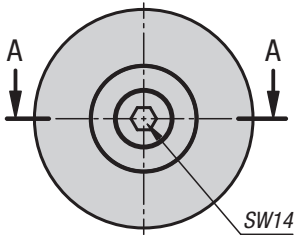
H

K1420.23523505025

50

UNI lock 5-axis reducer adapter

system size 138 mm



Material:

Steel.

Version:

Main body oxidised.

Contact faces case-hardened and ground.

Sample order:

K1422.0501241080

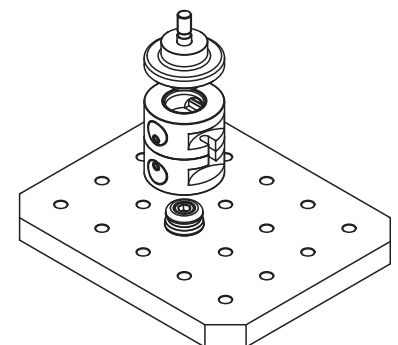
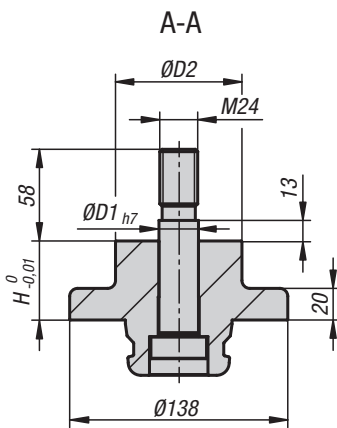
Note:

The UNI lock 5-axis reducer adapter is suitable for clamping and positioning workpieces.

Reducer adapters can be screwed onto the workpiece and mounted on the basic module or add-on clamp module.

On request:

Other versions.

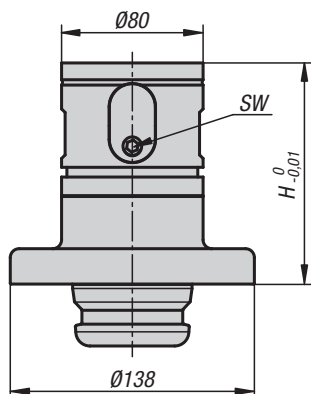


KIPP UNI lock 5-axis reducer adapter, system size 138 mm

Order No.	D1	D2	H
K1422.0501241080	25	80	50

UNI lock 5-axis reducer adapter

system size 138 mm



Material:

Steel.

Version:

Main body oxidised.

Contact faces case-hardened and ground.

Sample order:

K1423.1251

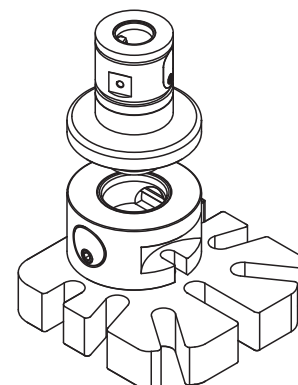
Note:

The UNI lock 5-axis reducer adapters are used to convert from size 80 to size 138.

They therefore allow all size 80 elements to continue to be used.

On request:

Other versions.



KIPP UNI lock 5-axis reducer adapter, system size 138 mm

Order No.	H	SW	Holding force F kN	Tightening torque max. Nm
K1423.1251	125	6	50	15

UNI lock clamping pin

system size 138 mm



Material:

Steel.

Version:

Main body oxidised.
Contact faces case-hardened and ground.

Sample order:

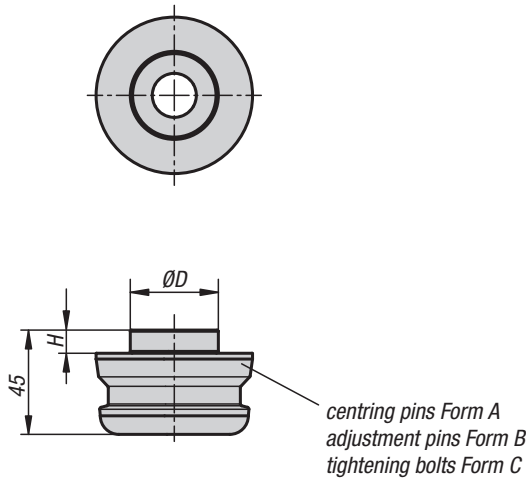
K1424.168381025

Note:

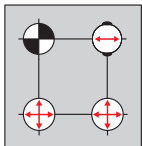
The UNI lock clamping pins are suitable for clamping and positioning workpieces and fixtures. The clamping pins are screwed onto the exchange element.

On request:

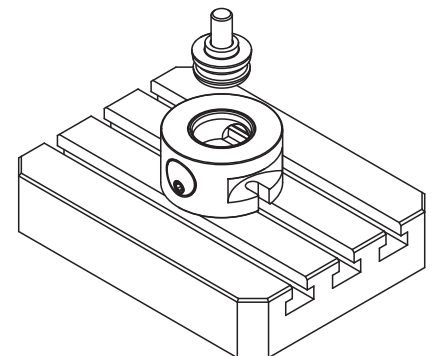
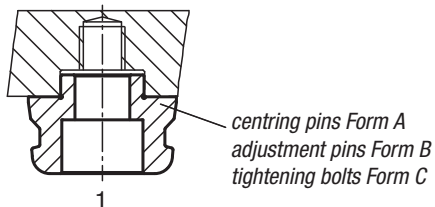
Other versions.



- Centring pins = Form A fixes in x and y axis (reference point)
- Adjustment pins = Form B fixes the free axis (bayonet pin)
- ⊕ Tightening bolts = Form C Pins with undersize (no centring function, clamping only)



1 = fastening with DIN 912 screw through the tightening bolt



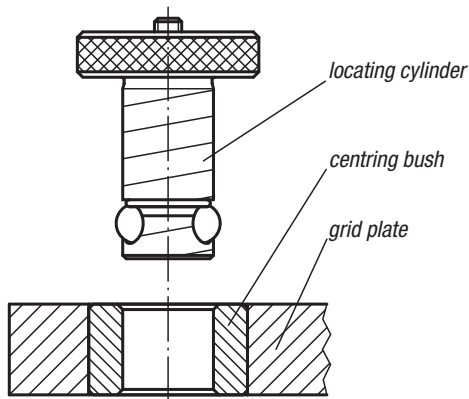
KIPP UNI lock clamping pin, system size 138 mm

Order No.	Form	D	H
K1424.168381025	A	38	10
K1424.268381025	B	38	10
K1424.368381025	C	38	10

Locating and clamping systems

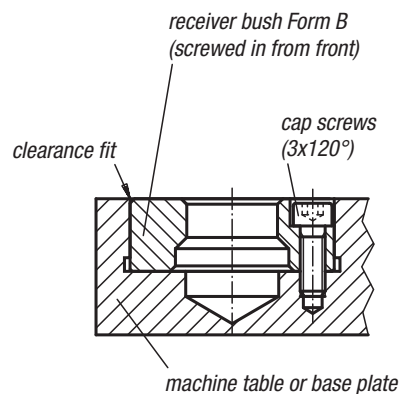
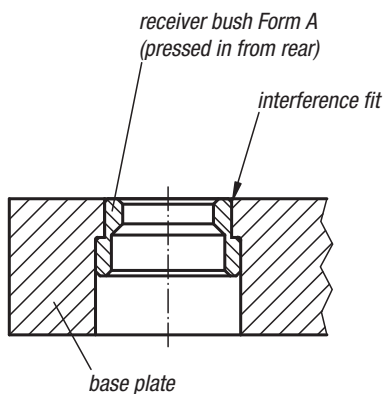


Locating and clamping system, mechanical



recommended installation

alternative installation



General information

1. With the mechanical locating and clamping system, base and tooling plates can be precisely positioned and fastening in a couple of seconds. The system consists of a locating cylinder, a centring bush and a receiver bush.
2. Three easy steps to applying the positioning and clamping system:
 - Mount two receiver bushes on the machine table or on the base plate, and two centring bushes on the clamping plate.
 - Insert the locating cylinder through the centring bush into the receiver bush to attain precise positioning.
 - Turn the set screws in each locating cylinder roughly two rotations to clamp tight.
 Eighteen different locating cylinders, two centring bush types and two receiver bush models are available.
3. A centring bush grade I (below left) and a centring bush grade I or II (above right) should be installed in each fastening plate as far apart from one another as possible. More than two positioning points bring no further advantages.
 - When more than two locating cylinders are used for additional holding force (dependent on application), holes in the fastening plate must be 0.4 mm to 0.8 mm bigger than the selected locating cylinder diameter.
4. If the centre distance between the two positioning holes in the e.g. machine table and the clamping plate is kept within a tolerance of ± 0.005 mm and two centring bushings grade I are used, a repeat accuracy within ± 0.013 mm can be achieved.
 - For a somewhat lower repeat accuracy within ± 0.04 mm, one centring bushing grade I and one centring bushing grade II with a centre distance tolerance of ± 0.03 mm are used.
5. The difference between the centring bush grade I and the centring bush grade II is that the centring bush grade II has a larger internal diameter in order to correspond to the greater centre distance tolerance in the machine table or the base plate.

Locating cylinder

Ball Lock



Material:

Locating cylinder carbon steel.
Balls roller bearing steel.

Version:

Locating cylinder tempered, black oxidised.
Balls hardened, bright.

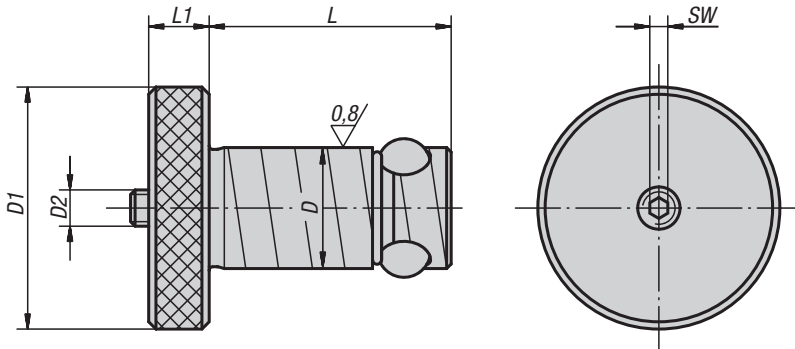
Sample order:

K0935.16020

Note:

By tightening the thrust screw (D2) the centre ball is pressed downwards and in turn forces the three locking balls outwards, where they locked in the receiver bush.

With this easy to use system machine set-up times are up to twelve times shorter than when conventional methods are used.



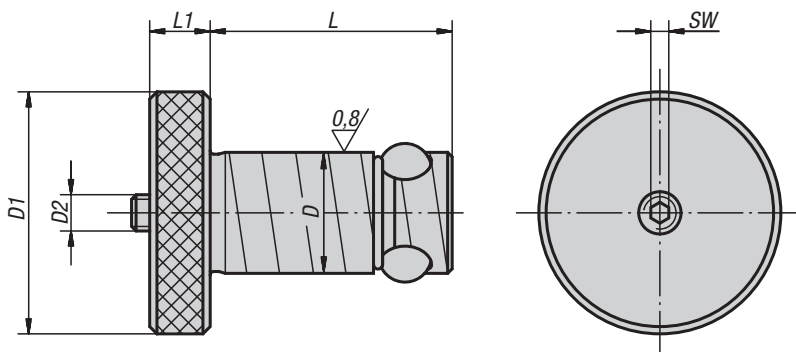
KIPP Locating cylinders Ball lock

Order No.	Grid plate thickness $\pm 0,05$	D	D1	D2	L	L1	SW	Holding force F kN	Tightening torque max. Nm	Order No. Repair Kit
K0935.13013	13	13	22	M5	27,6	6	2,5	3,3	1	K0935.913013
K0935.13020	20	13	22	M5	34,6	6	2,5	3,3	1	K0935.913020
K0935.16020	20	16	32	M6	36,5	8	3	5,3	3	K0935.916020
K0935.16025	25	16	32	M6	41,5	8	3	5,3	3	K0935.916025
K0935.20020	20	20	40	M6	39,5	10	3	13,3	4	K0935.920020
K0935.20025	25	20	40	M6	44,5	10	3	13,3	4	K0935.920025
K0935.25020	20	25	45	M8	44	10	4	30	9	K0935.925020
K0935.25025	25	25	45	M8	49	10	4	30	9	K0935.925025
K0935.30020	20	30	50	M10	49	13	5	44	15	K0935.930020
K0935.30025	25	30	50	M10	54	13	5	44	15	K0935.930025
K0935.35020	20	35	60	M12	51	13	6	68	25	K0935.935020
K0935.35025	25	35	60	M12	56	13	6	68	25	K0935.935025
K0935.35040	40	35	60	M12	71	13	6	68	25	K0935.935040
K0935.35050	50	35	60	M12	81	13	6	68	25	K0935.935050
K0935.50020	20	50	75	M20	64	20	10	88	50	K0935.950020
K0935.50025	25	50	75	M20	69	20	10	88	50	K0935.950025
K0935.50040	40	50	75	M20	84	20	10	88	50	K0935.950040
K0935.50050	50	50	75	M20	94	20	10	88	50	K0935.950050



Locating cylinder stainless steel

Ball Lock



Material:

Locating cylinder and ball stainless steel 1.4542.

Version:

Locating cylinder and ball hardened to min. 40 HRC, bright.

Sample order:

K1474.16020

Note:

By tightening the thrust screw (D2) the centre ball is pressed downwards and in turn forces the three locking balls outwards, where they locked in the receiver bush.

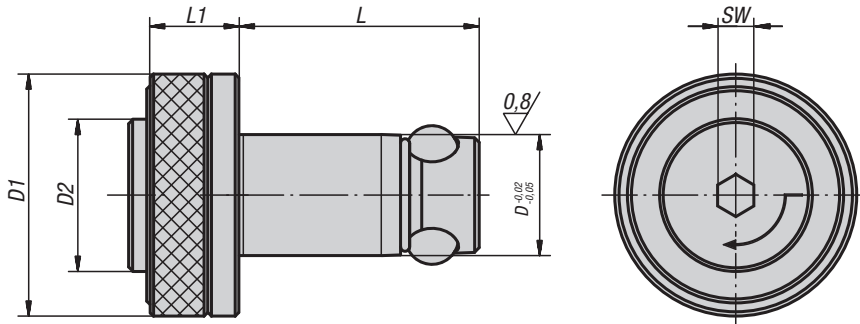
With this easy to use system machine set-up times are up to twelve times shorter than when conventional methods are used.

KIPP Locating cylinder stainless steel Ball Lock

Order No.	Grid plate thickness ± 0.13	D	D1	D2	L	L1	SW	Holding force F kN	Tightening torque max. Nm	Order No. Repair Kit
K1474.13013	13	13	22	M5	27,6	6	2,5	3,3	1,2	K1474.913013
K1474.13020	20	13	22	M5	34,6	6	2,5	3,3	1,2	K1474.913020
K1474.16020	20	16	32	M6	36,5	8	3	5,3	4,5	K1474.916020
K1474.16025	25	16	32	M6	41,5	8	3	5,3	4,5	K1474.916025
K1474.20020	20	20	40	M6	39,5	10	3	13,3	5,3	K1474.920020
K1474.20025	25	20	40	M6	44,4	10	3	13,3	5,3	K1474.920025
K1474.25020	20	25	45	M8	44	10	4	30	11	K1474.925020
K1474.25025	25	25	45	M8	49	10	4	30	11	K1474.925025
K1474.30020	20	30	50	M10	49	13	5	44	18	K1474.930020
K1474.30025	25	30	50	M10	54	13	5	44	18	K1474.930025
K1474.35020	20	35	60	M12	51	13	6	68	33	K1474.935020
K1474.35025	25	35	60	M12	56	13	6	68	33	K1474.935025
K1474.35040	40	35	60	M12	71	13	6	68	33	K1474.935040
K1474.35050	50	35	60	M12	81	13	6	68	33	K1474.935050
K1474.50020	20	50	75	M20	64	20	10	88	65	K1474.950020
K1474.50025	25	50	75	M20	69	20	10	88	65	K1474.950025
K1474.50040	40	50	75	M20	84	20	10	88	65	K1474.950040
K1474.50050	50	50	75	M20	94	20	10	88	65	K1474.950050

Locating cylinder

with quick clamping system



Material:

Locating cylinder carbon steel.
Balls roller bearing steel.

Version:

Locating cylinder tempered, black oxidised.
Balls hardened, bright.

Sample order:

K0935.112013

Note:

Locating cylinder with quick-clamp system for extra timesaving during setups.

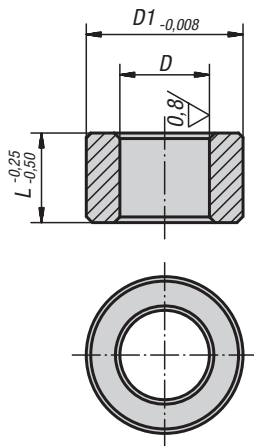
Insert the locating cylinder into the receiving hole and press the button. The three balls are pushed out and position the components. By tightening the set screw a 1/4 turn using an hexagonal key, the components are positively and securely held.



KIPP Locating cylinder with quick clamping system

Order No.	Grid plate thickness ±0,05	D	D1	D2	L	L1	SW	Holding force F kN	Tightening torque max. Nm
K0935.113020	20	13	25	16	34,6	12	4	4	1
K0935.116020	20	16	32	20	36,5	15	6	8	2
K0935.120020	20	20	40	25	39,5	15	6	8	2
K0935.120025	25	20	40	25	44,5	15	6	8	2
K0935.116025	25	16	32	20	41,5	15	6	8	2
K0935.113013	13	13	25	16	27,6	12	4	4	1

Centring bushes

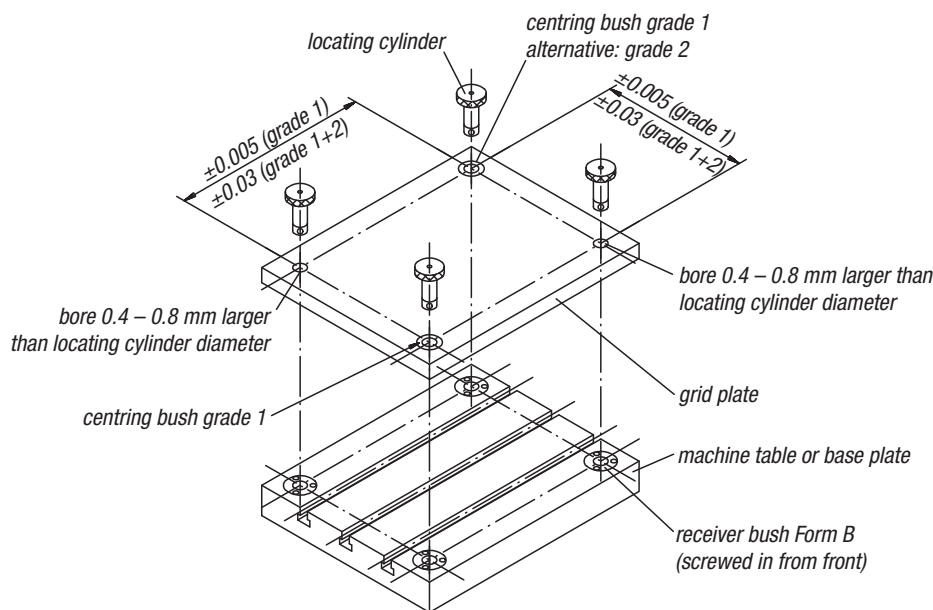


Material:
Ball bearing steel

Version:
Hardened, black oxidised.

Sample order:
K0936.113020

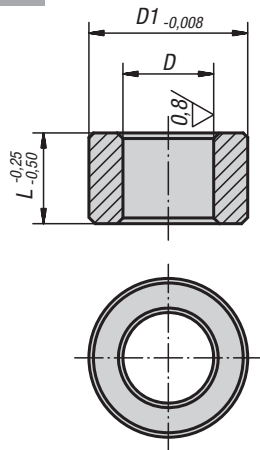
Note:
By a centre distance tolerance of ± 0.005 mm and two grade I centring bushes a repeat accuracy of ± 0.013 mm is possible.
By a centre distance tolerance of ± 0.03 mm and one grade I and one grade II centring bush a repeat accuracy of 0.04 mm is possible.
The centring bushes are pressed into the receiver holes of the tooling plates using a light pressure.
For further details see "General information".



KIPP Centring bushes

Order No. grade I	T=tolerance grade I	Order No. grade II	T=tolerance grade II	D	D1	L	Bore size for centring bush Ø +0.01
K0936.113013	+0,005 - +0,018	K0936.213013	+0,025 - +0,050	13	19,04	13	19,016
K0936.113020	+0,005 - +0,018	K0936.213020	+0,025 - +0,050	13	19,04	20	19,016
K0936.116020	+0,005 - +0,018	K0936.216020	+0,025 - +0,050	16	25,042	20	25,016
K0936.116025	+0,005 - +0,018	K0936.216025	+0,025 - +0,050	16	25,042	25	25,016
K0936.120020	+0,005 - +0,018	K0936.220020	+0,025 - +0,050	20	35,042	20	35,018
K0936.120025	+0,005 - +0,018	K0936.220025	+0,025 - +0,050	20	35,042	25	35,018
K0936.125020	+0,005 - +0,018	K0936.225020	+0,025 - +0,050	25	35,042	20	35,018
K0936.125025	+0,005 - +0,018	K0936.225025	+0,025 - +0,050	25	35,042	25	35,018
K0936.130020	+0,005 - +0,018	K0936.230020	+0,025 - +0,050	30	45,042	20	45,018
K0936.130025	+0,005 - +0,018	-	-	30	45,042	25	45,018
K0936.135020	+0,005 - +0,018	-	-	35	45,042	20	45,018
K0936.135025	+0,005 - +0,018	K0936.235025	+0,025 - +0,050	35	45,042	25	45,018
K0936.135040	+0,005 - +0,018	K0936.235040	+0,025 - +0,050	35	45,042	40	45,018
K0936.135050	+0,005 - +0,018	K0936.235050	+0,025 - +0,050	35	45,042	50	45,018
K0936.150020	+0,005 - +0,018	-	-	50	63,546	20	63,521
K0936.150040	+0,005 - +0,018	K0936.250040	+0,025 - +0,050	50	63,546	40	63,521
K0936.150050	+0,005 - +0,018	K0936.250050	+0,025 - +0,050	50	63,546	50	63,521
-	-	K0936.250025	+0,025 - +0,050	50	63,546	25	63,521

Centring bushes stainless steel



Material:

Stainless steel 1.4548.

Version:

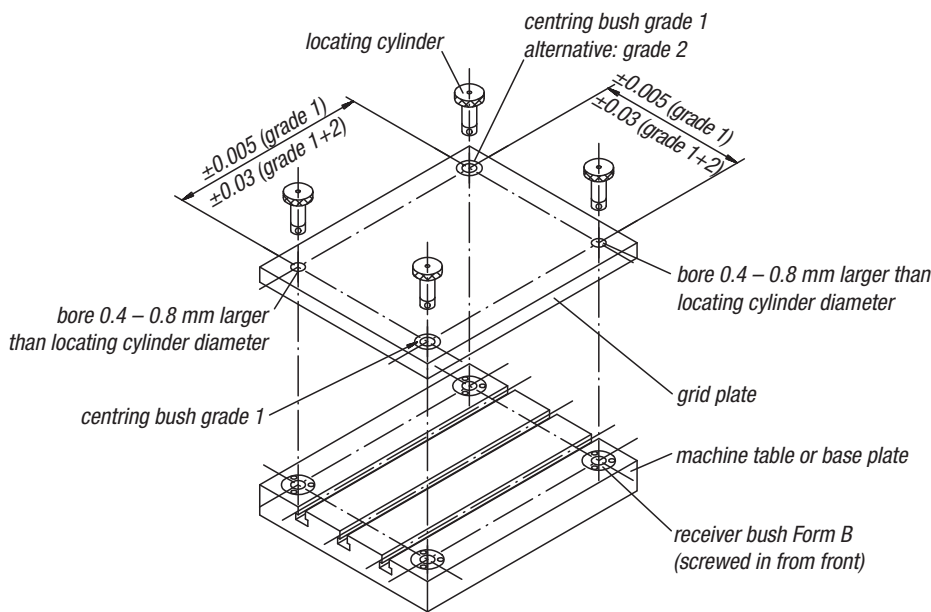
Hardened to min. 40 HRC, bright.

Sample order:

K1475.113020

Note:

By a centre distance tolerance of ± 0.005 mm and two grade I centring bushes a repeat accuracy of ± 0.013 mm is possible.
 By a centre distance tolerance of ± 0.03 mm and one grade I and one grade II centring bush a repeat accuracy of 0.04 mm is possible.
 The centring bushes are pressed into the receiver holes of the tooling plates using a light pressure.
 For further details see "General information".



KIPP Centring bushes stainless steel

Order No. grade I	T=tolerance grade I	Order No. grade II	T=tolerance grade II	D	D1	L	Bore size for centring bush Ø +0.01
K1475.113013	+0,005 - +0,018	K1475.213013	+0,025 - +0,050	13	19,04	13	19,016
K1475.113020	+0,005 - +0,018	K1475.213020	+0,025 - +0,050	13	19,04	20	19,016
K1475.116020	+0,005 - +0,018	K1475.216020	+0,025 - +0,050	16	25,042	20	25,016
K1475.116025	+0,005 - +0,018	K1475.216025	+0,025 - +0,050	16	25,042	25	25,016
K1475.120020	+0,005 - +0,018	K1475.220020	+0,025 - +0,050	20	35,042	20	35,018
K1475.120025	+0,005 - +0,018	K1475.220025	+0,025 - +0,050	20	35,042	25	35,018
K1475.125020	+0,005 - +0,018	K1475.225020	+0,025 - +0,050	25	35,042	20	35,018
K1475.125025	+0,005 - +0,018	K1475.225025	+0,025 - +0,050	25	35,042	25	35,018
K1475.130020	+0,005 - +0,018	K1475.230020	+0,025 - +0,050	30	45,042	20	45,018
K1475.130025	+0,005 - +0,018	K1475.230025	+0,025 - +0,050	30	45,042	25	45,018
K1475.135020	+0,005 - +0,018	K1475.235020	+0,025 - +0,050	35	45,042	20	45,018
K1475.135025	+0,005 - +0,018	K1475.235025	+0,025 - +0,050	35	45,042	25	45,018
K1475.135040	+0,005 - +0,018	K1475.235040	+0,025 - +0,050	35	45,042	40	45,018
K1475.135050	+0,005 - +0,018	K1475.235050	+0,025 - +0,050	35	45,042	50	45,018
K1475.150020	+0,005 - +0,018	K1475.250020	+0,025 - +0,050	50	63,546	20	63,521
K1475.150025	+0,005 - +0,018	K1475.250025	+0,025 - +0,050	50	63,546	25	63,521
K1475.150040	+0,005 - +0,018	K1475.250040	+0,025 - +0,050	50	63,546	40	63,521
K1475.150050	+0,005 - +0,018	K1475.250050	+0,025 - +0,050	50	63,546	50	63,521



Receiver bushes

Form A (pressed in from rear)

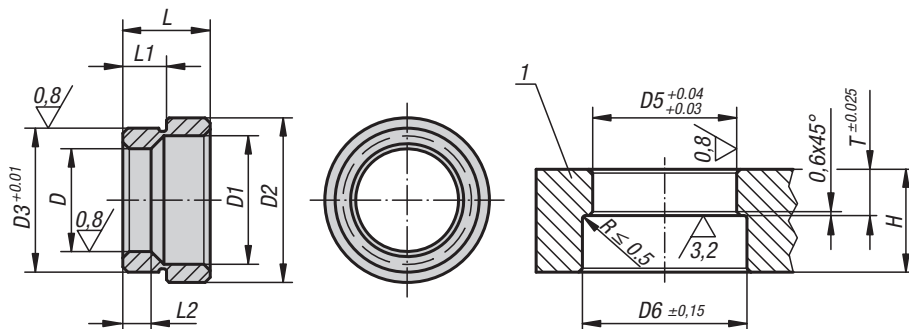


Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0937.20

Drawing reference:
1) grid plate



KIPP Receiver bushes Form A (pressed in from rear)

Order No.	D	D1	D2	D3	L	L1	L2	D5	D6	T	Min. grid plate thickness H
K0937.13	13	17,3	25	20,03	12,1	6,6	5,58	20	26	6,92	20
K0937.16	16	20,7	28,6	22,03	12,1	6,9	6,6	22	29	7,24	20
K0937.20	20	24,8	32,2	28,03	17,1	8,42	8,13	28	33	8,74	25
K0937.25	25	30,4	40,2	35,03	21	10,22	10,16	35	41	10,54	25
K0937.30	30	36,2	48,2	42,03	21,8	10,63	11,18	42	49	10,95	30
K0937.35	35	41,3	54,2	48,03	25,1	12,18	14,78	48	55	12,5	32
K0937.50	50	58,4	75,2	67,03	31,1	15,43	18,67	67	76	15,75	45

K1476

Receiver bushes, stainless steel

Form A (pressed in from rear)

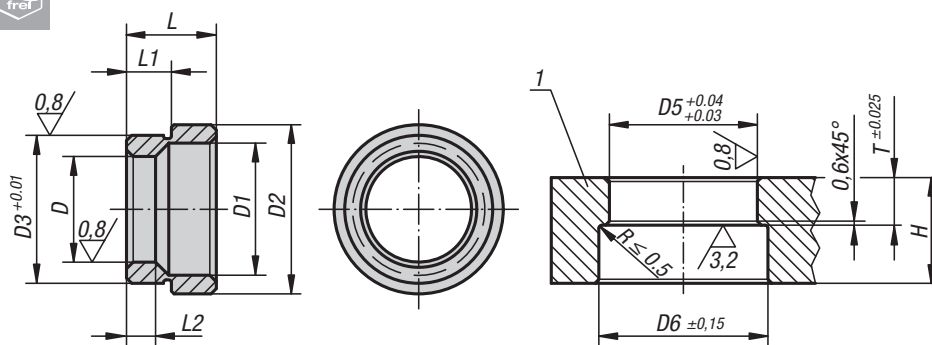


Material:
Stainless steel 1.4548.

Version:
Hardened to min. 40 HRC, bright.

Sample order:
K1476.20

Drawing reference:
1) grid plate

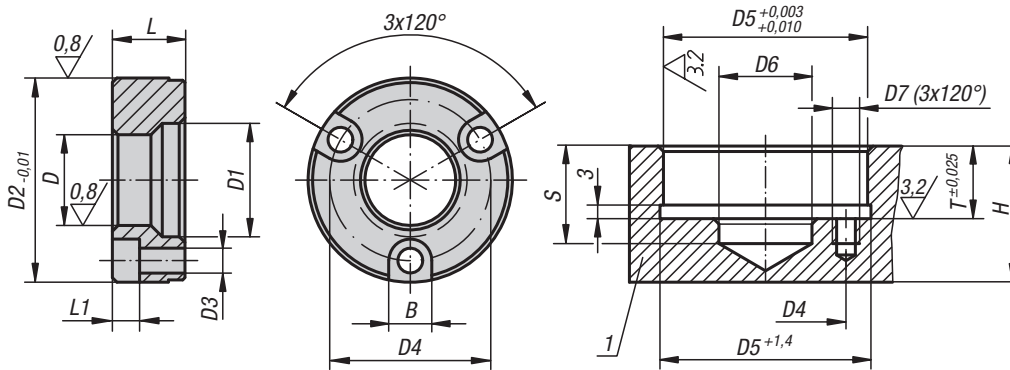
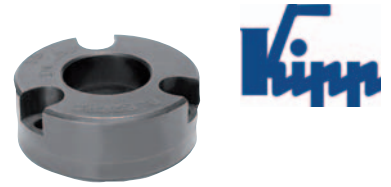


KIPP Receiver bushes stainless steel Form A (pressed in from rear)

Order No.	D	D1	D2	D3	L	L1	L2	D5	D6	T	Min. grid plate thickness H
K1476.13	13	17,3	25	20,03	12,1	6,6	5,58	20	26	6,92	20
K1476.16	16	20,7	28,6	22,03	12,1	6,9	6,6	22	29	7,24	20
K1476.20	20	24,8	32,2	28,03	17,1	8,42	8,13	28	33	8,74	25
K1476.25	25	30,4	40,2	35,03	21	10,22	10,16	35	41	10,54	25
K1476.30	30	36,2	48,2	42,03	21,8	10,63	11,18	42	49	10,95	30
K1476.35	35	41,3	54,2	48,03	25,1	12,18	14,78	48	55	12,5	32
K1476.50	50	58,4	75,2	67,03	31,1	15,43	18,67	67	76	15,75	45

Receiver bushes

Form B (screwed down from front)



Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0938.13

Note:
Fastening screws included.

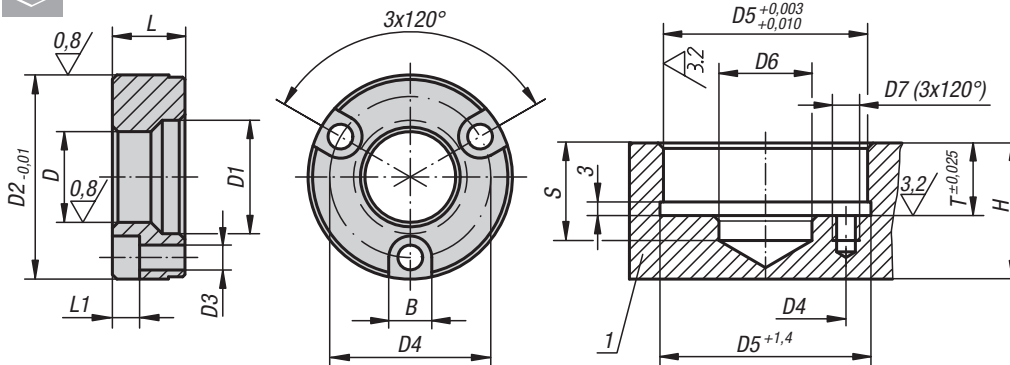
Drawing reference:
1) grid plate

KIPP Receiver bushes Form B (screwed down from front)

Order No.	D	D1	D2	D3	D4	L	L1	B	D5	D6	D7	S	T	Min. grid plate thickness H
K0938.13	13	17,3	34,99	4,4	25	11,56	4,5	7,6	35	13,5	M4x7	20	11,91	20
K0938.16	16	20,7	36,99	4,4	29	11,56	4,5	7,6	37	21	M4x7	20	11,91	20
K0938.20	20	24,8	44,99	5,4	35	15,82	6	9,5	45	21	M5x9	25	16,21	25
K0938.25	25	30,4	54,99	6,4	42	19,94	7	11	55	25,5	M6x10	25	20,32	25
K0938.30	30	36,2	59,99	6,4	48	21,77	7	11	60	30,5	M6x11	30	22,15	30
K0938.35	35	41,3	69,99	8,4	56	22,61	9	14	70	40	M8x17	32	22,99	32
K0938.50	50	58,4	91,99	10,4	75	31,12	11	17	92	55	M10x18	45	31,5	45

Receiver bushes, stainless steel

Form B (screw front side)



Material:
Stainless steel 1.4548.

Version:
Hardened to min. 40 HRC, bright.

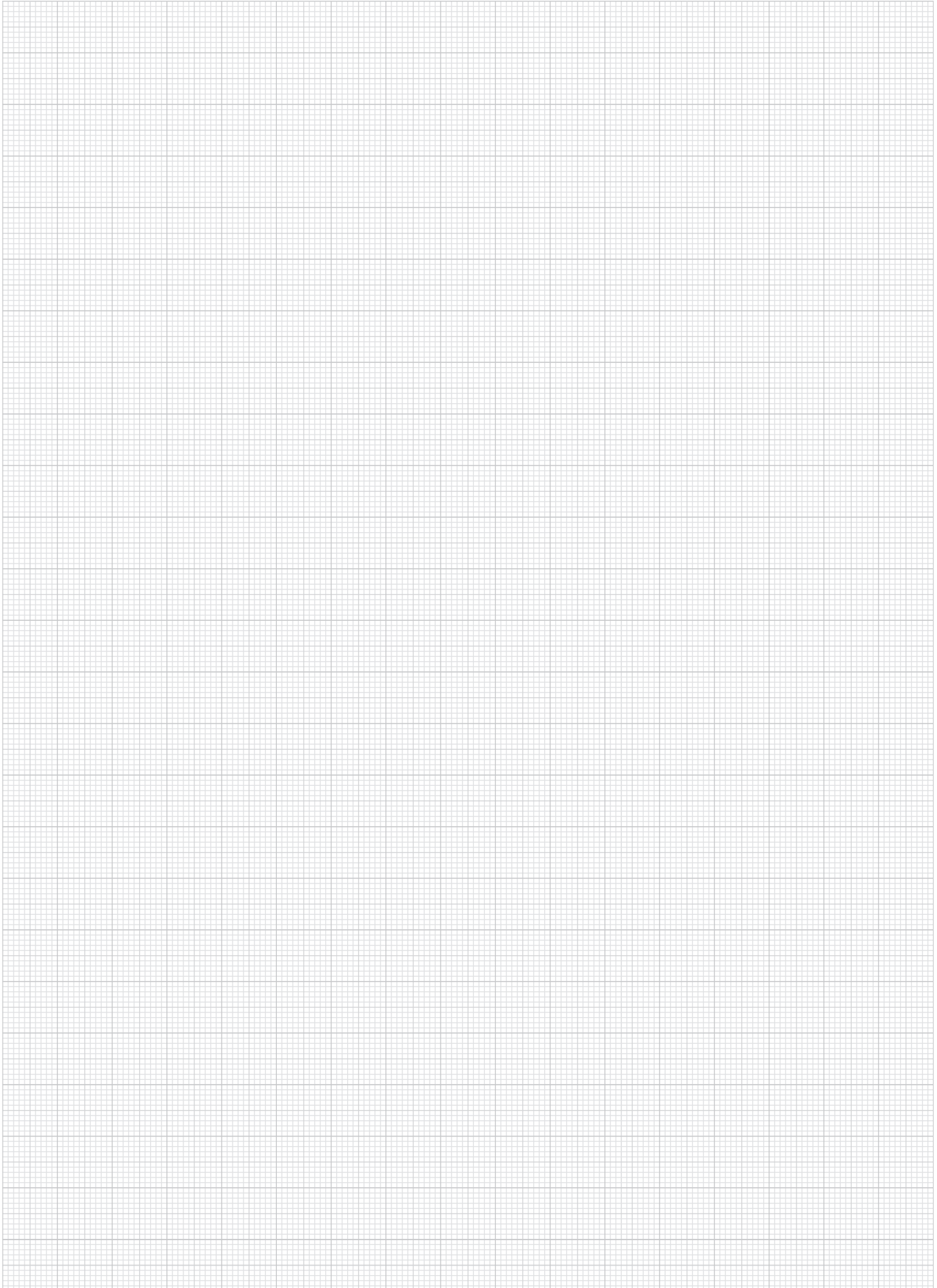
Sample order:
K1477.13

Note:
Fastening screws included.

Drawing reference:
1) grid plate

KIPP Receiver bushes stainless steel Form B (screwed down from front)

Order No.	D	D1	D2	D3	D4	L	L1	B	D5	D6	D7	S	T	Min. grid plate thickness H
K1477.13	13	17,3	34,99	4,4	25	11,56	4,5	7,6	35	13,5	M4x7	20	11,91	20
K1477.16	16	20,7	36,99	4,4	29	11,56	4,5	7,6	37	21	M4x7	20	11,91	20
K1477.20	20	24,8	44,99	5,4	35	15,82	6	9,5	45	21	M5x9	25	16,21	25
K1477.25	25	30,4	54,99	6,4	42	19,94	7	11	55	25,5	M6x10	25	20,32	25
K1477.30	30	36,2	59,99	6,4	48	21,77	7	11	60	30,5	M6x11	30	22,15	30
K1477.35	35	41,3	69,99	8,4	56	22,61	9	14	70	40	M8x17	32	22,99	32
K1477.50	50	58,4	91,99	10,4	75	31,12	11	17	92	55	M10x18	45	31,5	45

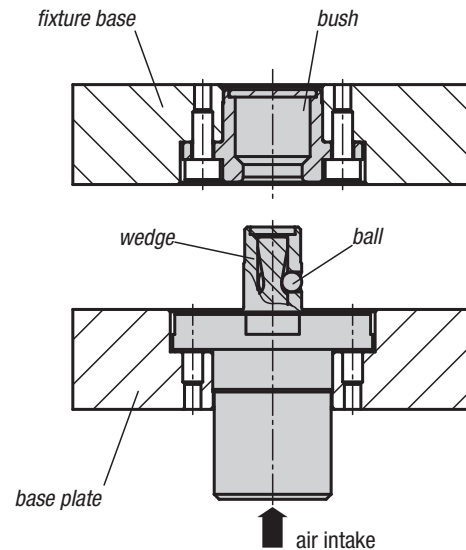


Pneumatic positioning and clamping system

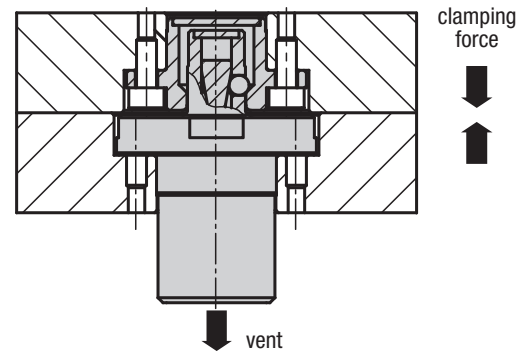
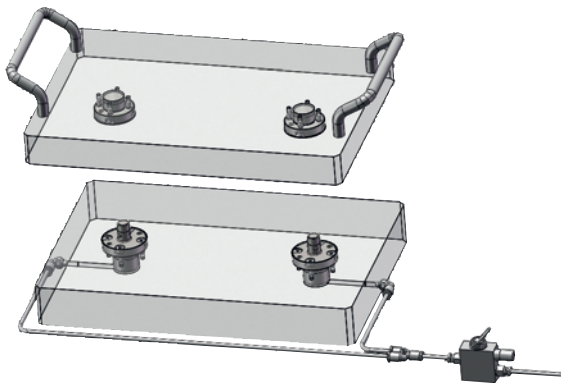


General information

1. The pneumatic positioning and clamping system enables rapid and precise fixation and positioning of grid plates. The system consists of a locating cylinder and a locating bush.
2. The locating cylinder is actuated pneumatically.
3. To use the positioning and clamping system, follow these three simple steps:
Install two locating cylinders on the machine table or baseplate. At the same time install the locating bushes with the interchangeable subplates in line with the specified dimensions.
Feed in air to open the locating cylinder mechanism to make the clamping balls move inwards. Insert the interchangeable subplate with the locating bushes and close the air valve again.
The interchangeable subplate is now positioned and clamped.
4. The system is clamped without an air supply. Spring force is used for clamping in the locating cylinder. An air supply of 6 bar is required to open the mechanism.
5. 2 different installation variants are available.



Applications



Locating cylinders

pneumatic

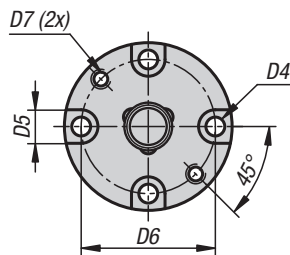
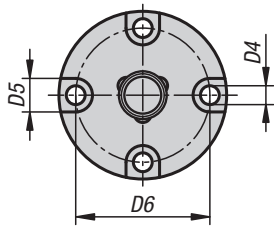
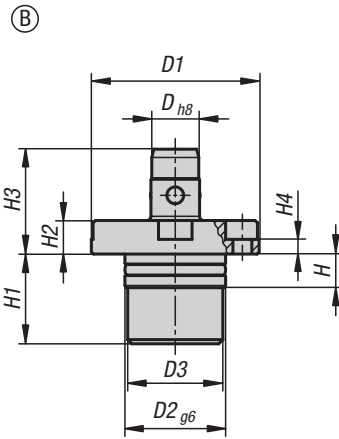
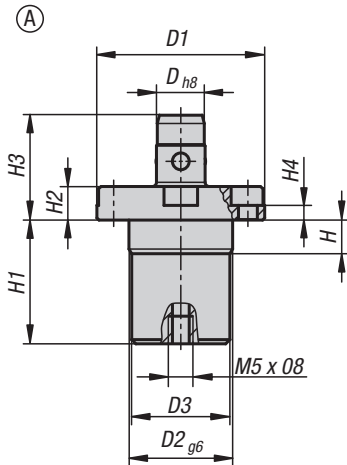


Material:
Carbon steel.

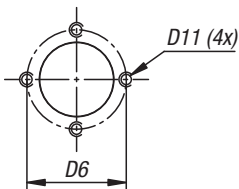
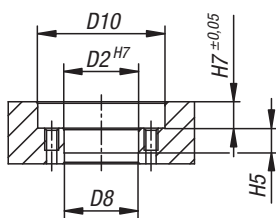
Version:
nickel-plated.

Sample order:
K1219.112

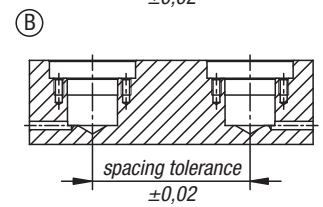
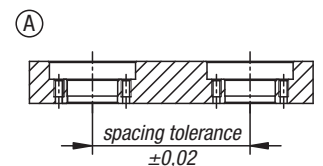
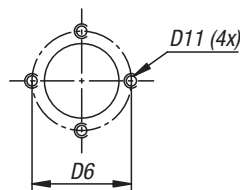
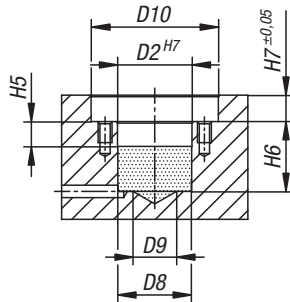
Note:
The 3 clamping balls are pneumatically released. The 3 clamping balls retract and the fixture can be exchanged. If the air is stopped, the 3 clamping balls advance and the fixture is clamped. This easy-to-operate system significantly reduces the changeover times.



mounting instructions:



mounting instructions:



KIPP Locating cylinders pneumatic

Order No.	Form	D	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	H	H1	H2	H3	H4	H5	H6	H7	Retaining force F1 N
K1219.112	A	12	40	24	23,4	4,5	8	32	-	23,8	-	41	M4	8	29,5	8	25	3,5	8,5	-	8,5	250
K1219.116	A	16	51	32	31,4	5,5	9,5	41	-	31,8	-	52	M5	8,5	31,7	9,5	28,5	4	9	-	10	350
K1219.212	B	12	40	24	23,4	4,5	8	32	M4	23,8	14	41	M4	8	24,5	8	25	3,5	8,5	25,5	8,5	250
K1219.216	B	16	51	32	31,4	5,5	9,5	41	M5	31,8	20	52	M5	8,5	25,5	9,5	28,5	4	9	26,5	10	350

Locating bushes

for pneumatic locating cylinder

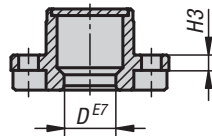
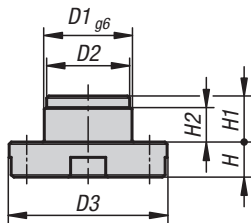
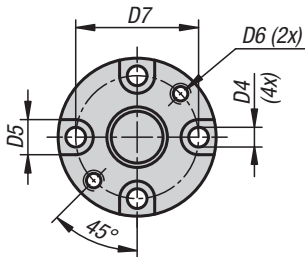


Material:
Carbon steel.

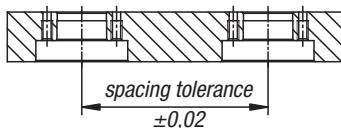
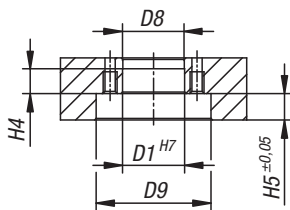
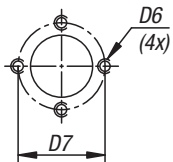
Version:
nickel-plated.

Sample order:
K1220.12

Note:
Locating bushes are placed in a fixture or interchangeable subplate and form the counterpart to the locating cylinder.
The locating bushes are centred in a reamed hole and then fastened with 4 screws.
The balls of the locating cylinder engage in the groove in the locating bush, thereby forming a fast, secure and highly accurate changeover unit, and reducing setup and changeover times.



mounting instructions:



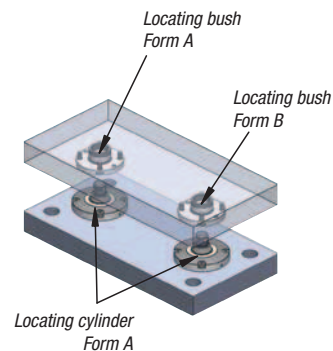
KIPP Locating bushes for pneumatic locating cylinder

Order No.	D	D1	D2	D3	D4	D5	D6	D7	D8	D9	H	H1	H2	H3	H4	H5
K1220.12	12,1	20	19,6	36	4,5	8	M4	28	19,8	37	8	10,5	7,5	3,5	8	8,5
K1220.16	16,1	25	24,6	44	5,5	9,5	M5	34	24,8	45	9,5	11	7	4	7,5	10

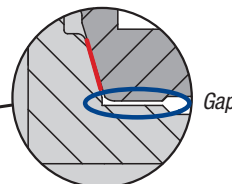
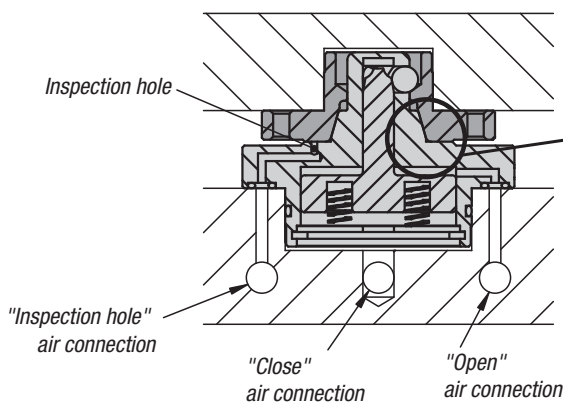
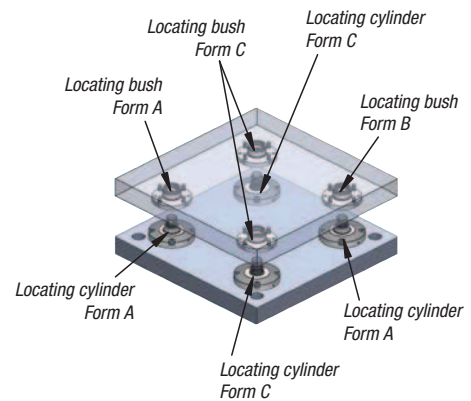
General information

1. The pneumatic positioning and clamping system enables rapid and precise positioning and fastening of tooling and base plates. The system consists of a locating cylinder and locating bush.
2. The locating cylinders are actuated pneumatically.
3. The positioning and clamping system is made ready for use in three easy steps:
Install two (or 4) locating cylinders on the machine table or baseplate. Likewise, the locating bushes with the interchangeable subplates are installed according to the specified dimensions.
To release the locating cylinder mechanism, blow compressed air into the opening circuit. This makes the clamping balls move inwards. Insert the interchangeable subplate with the locating bushes and actuate the air valve for the closing circuit. The open port should now be switched off. The interchangeable subplate is now positioned and clamped.
To open the mechanism, an air connection of at least 4.5 bar is required.
4. When clamped, compressed air must remain connected to the „close“ port. The air valve remains opened.
If the air supply fails, the locating cylinder still clamps using the reduced force of the clamping springs.
5. There are 2 system sizes to choose from.

Application example for 2x clamping station:

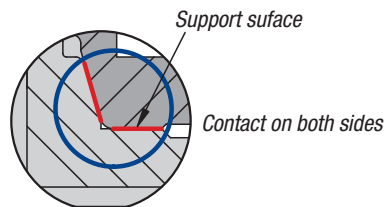


Application example for 4x clamping station:



Tension-free state:

Contact between Form A locating cylinder (cone) and Form A locating bush.
Gap in the contact face.



Clamped state:

Cone surfaces and contact faces have contact.

- If the air supply fails, the wedge mechanism and the springs of the locating cylinder prevent a sudden reduction of the clamping force.

Clamping force of the locating cylinder when no air is connected (spring clamping force only):

- D1 = 70 ... 1.2 kN
- D1 = 85 ... 1.8 kN

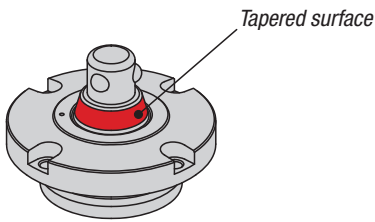
- The air connection for support control is used to check if the locating bush lies correctly on the locating cylinder.

- Repeat accuracy 3 µm.

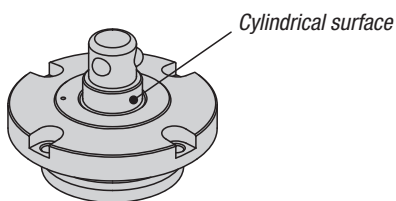
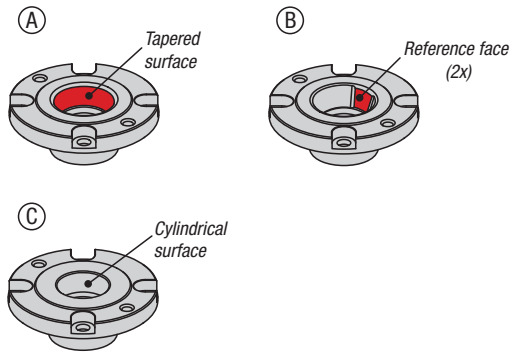
Pneumatic positioning and clamping system



Function:

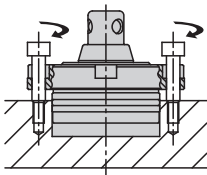


Positioning via tapered Form A locating cylinder

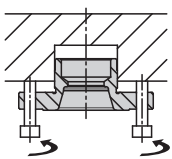


Clamping with cylindrical Form C locating cylinder

Disassembly of the locating cylinders:

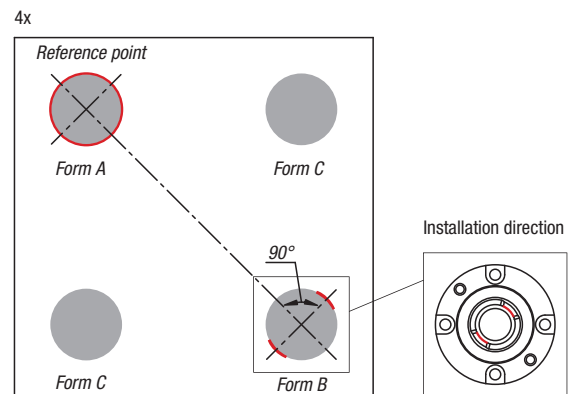
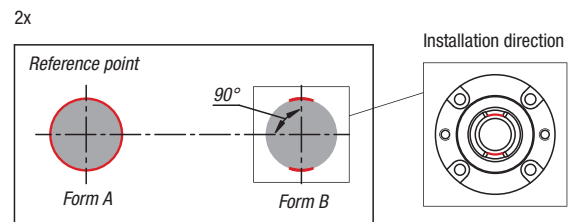


Disassembly of the locating bushes:



Arrangement of the locating bushes:

Mount the Form A locating bush (centring) and the Form B locating bush (compensation) as in the following illustrations. Observe the installation angle of the Form B locating bush (compensation), as this differs for a 2x station and a 4x station.



Locating cylinders

pneumatic



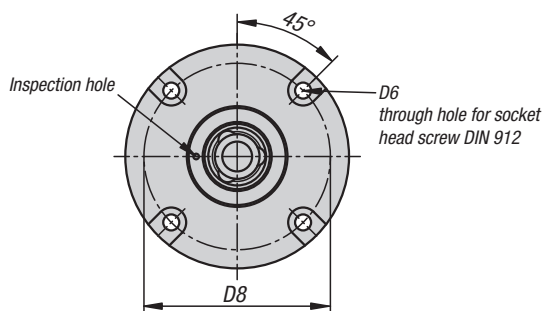
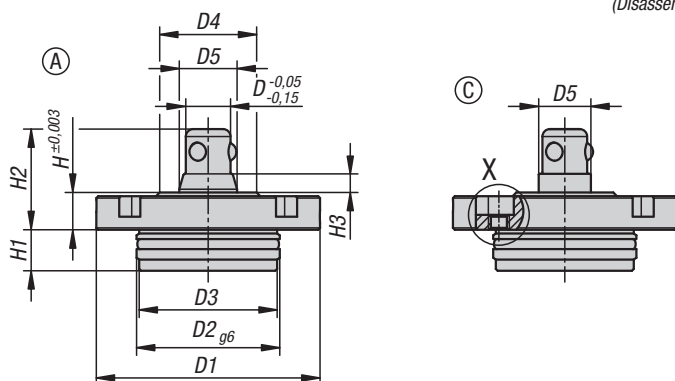
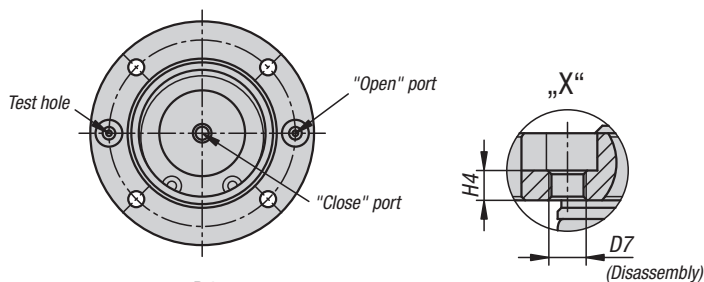
Material:
Housing and clamping cylinder, carbon steel.
Balls, stainless steel 1.0503.

Version:
Housing hardened and black oxidised.
Contact faces ground.

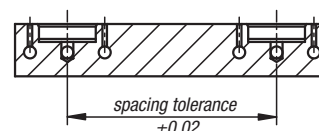
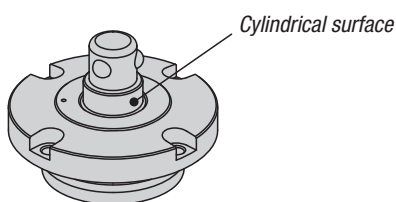
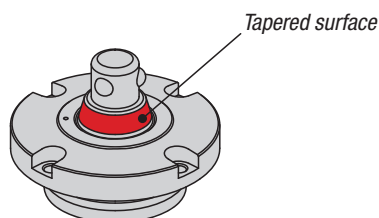
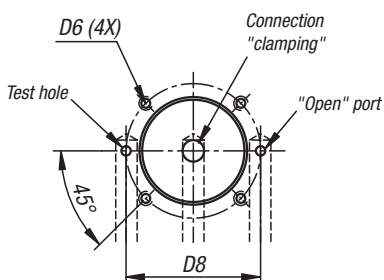
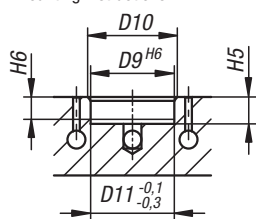
Sample order:
K1486.11670

Note:
This positioning and clamping system is especially suitable for installation in fixtures (plates, clamping tower blocks, etc.) in all mounting positions. The modular design allows the number of and distance between the locating cylinders to be ideally adjusted to suit the clamping task. Due to the small diameters, the spacing between the locating cylinders can also be reduced.

The 3 clamping balls are mechanically released through control of the locating cylinder with the „opening“ connection. The 3 clamping balls move inward and the fixture can be changed quickly. For clamping, the air is taken from the „opening“ connection and the „clamping“ connection then receives air on the locating cylinder. The 3 clamping balls are mechanically driven outward again and the new fixture is clamped. To achieve optimal retaining force, the locating cylinder remains connected to the air.



mounting instructions:



KIPP Locating cylinders pneumatic

Order No.	Version 2	Form	D	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	H	H1	H2	H3	H4	H5	H6	Retaining force F1 N
K1486.11670	conical	A	16	70	48	47,5	38	24,5	M5	M6	60	48	50	48	12	15	35	8	5	16	12	4000
K1486.31670	cylindrical	C	16	70	48	47,5	38	20	M5	M6	60	48	50	48	12	15	35	8	5	16	12	4000
K1486.12085	conical	A	20	85	58	57,5	48	31,5	M6	M8	72	58	60	58	15	19	44	10	6	20	16	6300
K1486.32085	cylindrical	C	20	85	58	57,5	48	26	M6	M8	72	58	60	58	15	19	44	10	6	20	16	6300

Locating bushes

for pneumatic locating cylinder



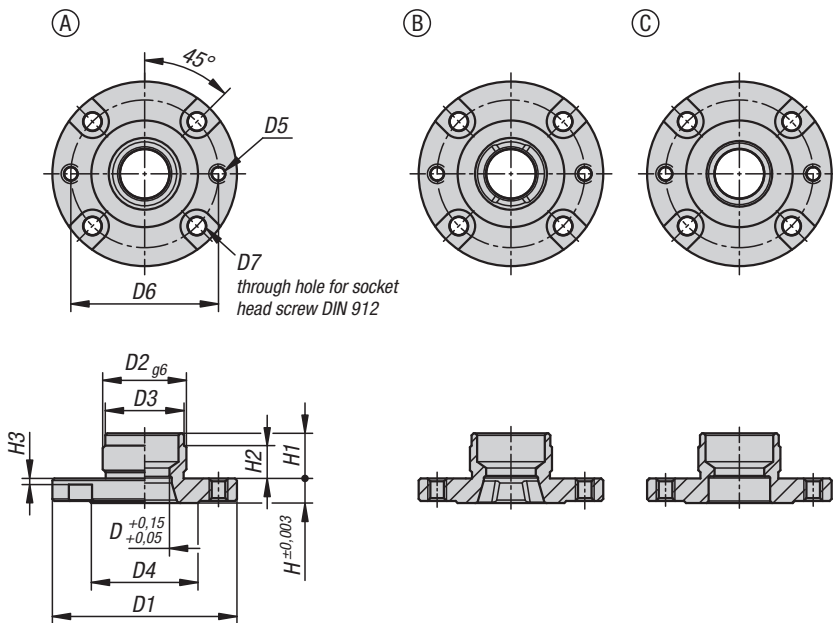
Material:
Carbon steel.

Version:
Housing hardened and black oxidised.
Contact faces ground.

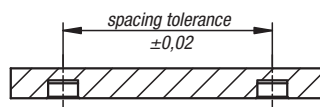
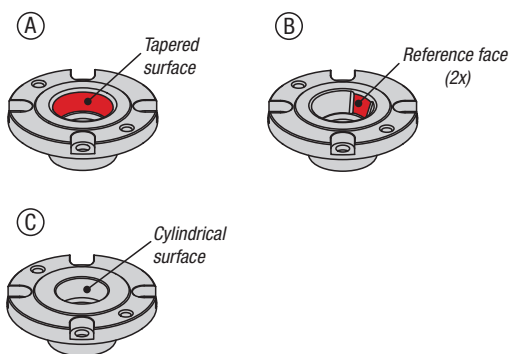
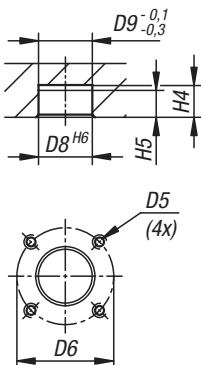
Sample order:
K1487.11660

Note:
Locating bushes are placed in a fixture or interchangeable subplate and form the counterpart to the locating cylinder. The locating bushes are centred in a reamed hole and then fastened with 4 screws. The balls of the locating cylinder engage in the groove in the locating bush, thereby forming a fast, secure and highly accurate changeover unit, and reducing setup and changeover times.

Attention:
Please observe installation notes of the locating bushes.



mounting instructions:



KIPP Locating bushes for pneumatic locating cylinder

Order No. Form A	Order No. Form B	Order No. Form C	D	D1	D2	D3	D4	D5	D6	D7	D8	D9	H	H1	H2	H3	H4	H5
K1487.11660	K1487.21660	K1487.31660	16	60	28	27,5	38	M5	50	M5	28	28	8	15	10	2,5	16	12
K1487.12075	K1487.22075	K1487.32075	20	75	36	35,5	48	M6	62	M6	36	36	10	19	14	3,5	20	16

KIPPflexX 5-axis vice



KIPPflexX 5-axis vice

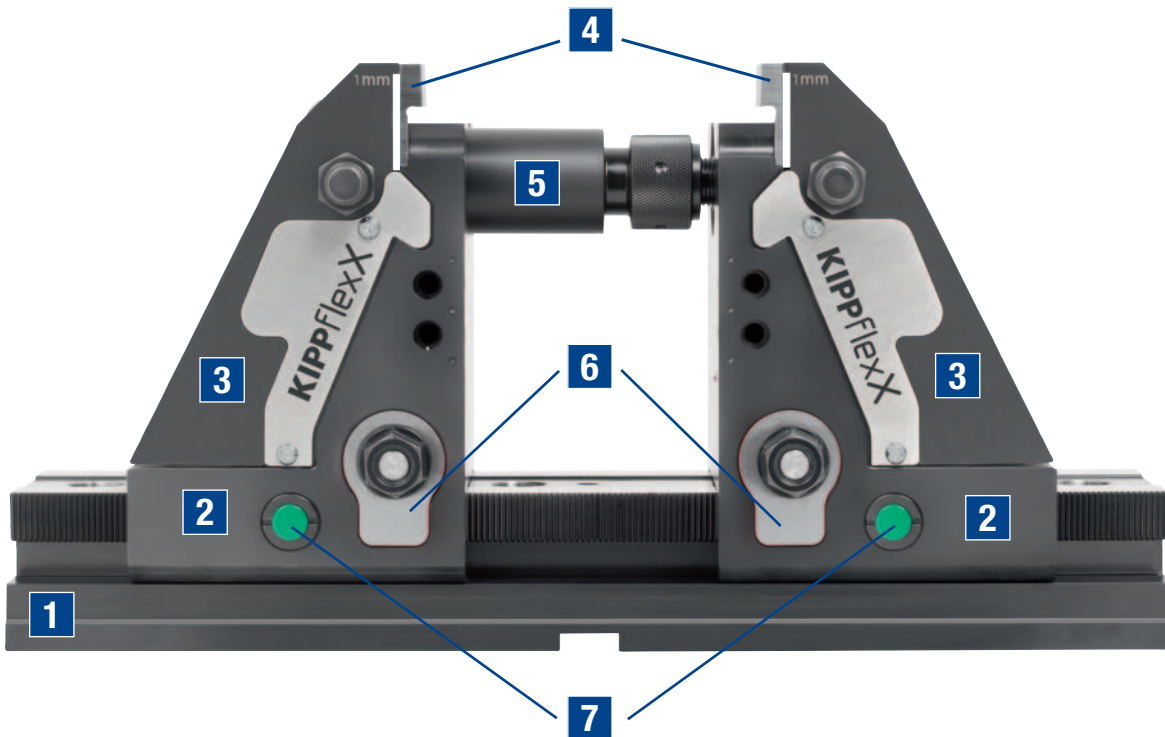


Function

The KIPPflexX 5-axis vice is the 3rd generation of vices for 5-axis milling machines.

The new generation, KIPPflexX, convinces by being much more user-friendly through the use of a crank handle and the proven clamping physics from the 5-axis vice compact series.

The KIPPflexX 5-axis vice can be used for clamping blanks or with positive-down effect. An enormous clamping force of 52 kN, optimum accessibility for short tools and very high rigidity are further advantages milling machine operators.



- 1** Base plate
- 2** Positioning elements
- 3** Vice jaws
- 4** Jaw plates
- 5** Extension shafts and threaded spindle
- 6** Clamping element with nut
- 7** Thrust pin for pre-centering

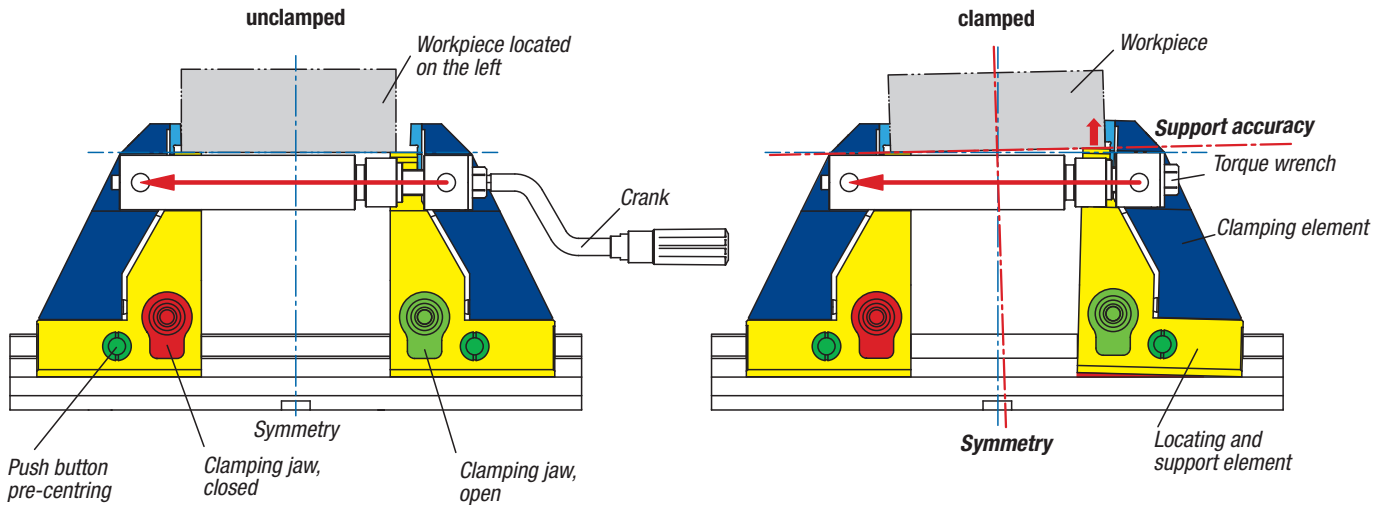
ADVANTAGES:

- Normal vice and centric vice 2 in 1
- Clamping with integrated positive- down effect
- Quick adjustment with the crank function
- Very high clamping force directly on the workpiece
- Highest rigidity in the system
- Best tool accessibility from all sides

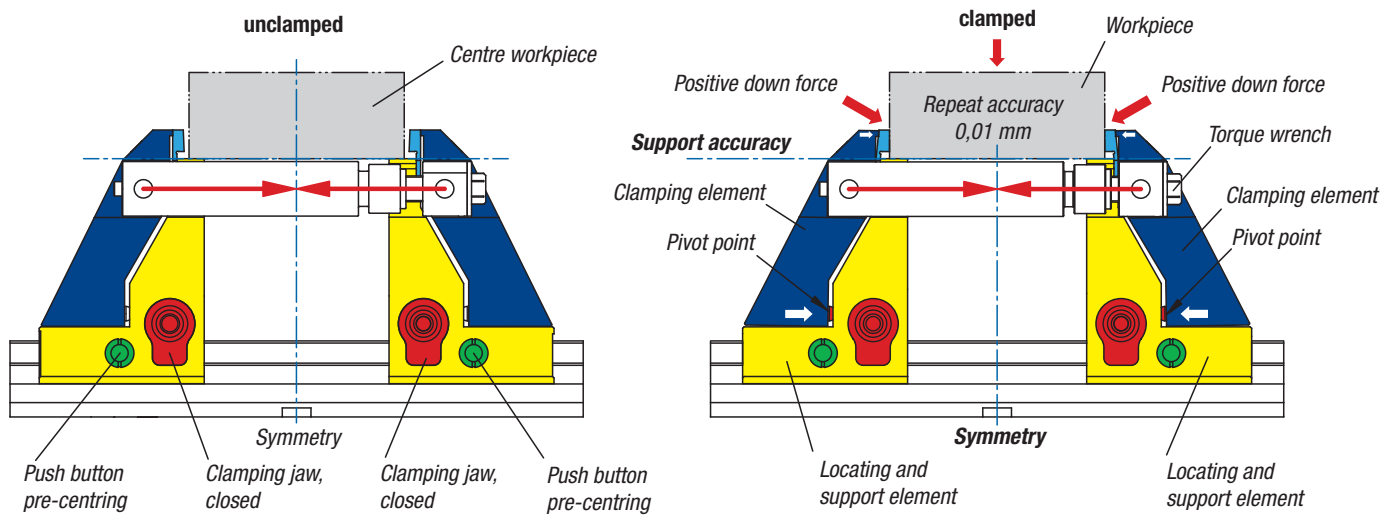
Technical explanation of the difference between positive-down force clamping and normal clamping



Blank clamping / Vice principle



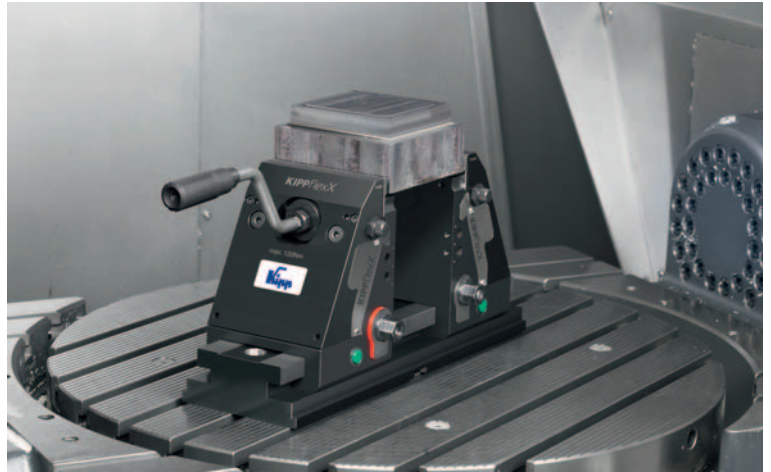
Downthrust clamping



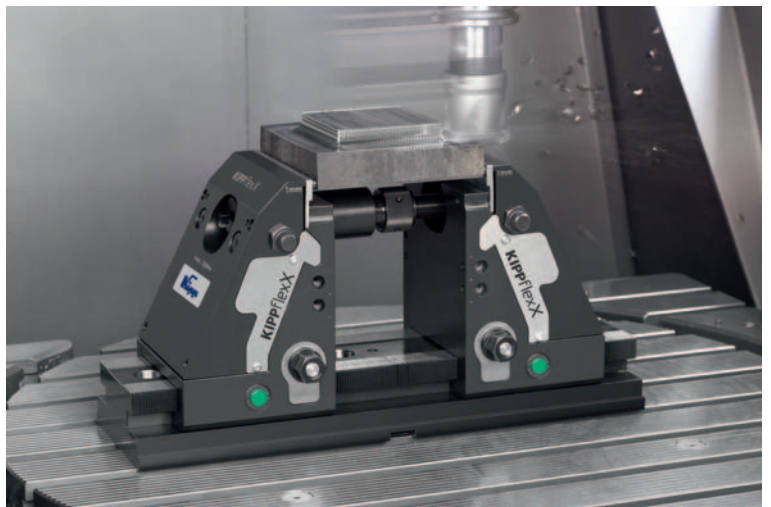
Applications



5-axis vice KIPPflexX in use clamping a blank.
The left red jaw is open. Quick adjustment is carried out using the crank handle.

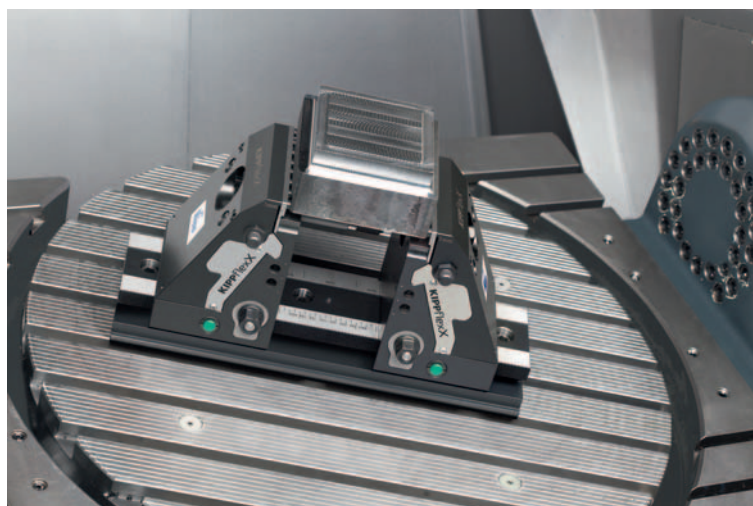


Positive-down effect clamping with the KIPPflexX.
Both jaws are closed so that a sure positive down force takes place onto the workpiece rest.



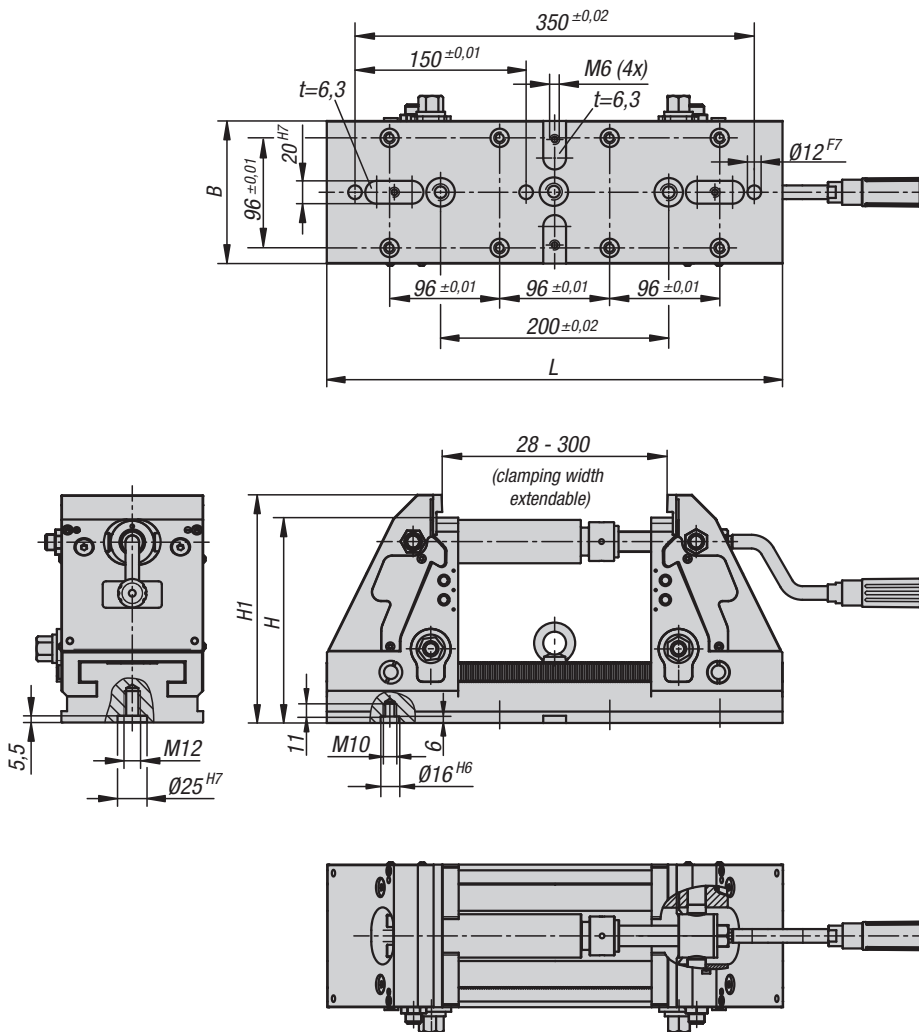
5-side machining on a 5-axis milling machine.
Optimum tool accessibility for machining directly over the 5-axis vice KIPPflexX.





KIPPflexX 5-axis vice

jaw plates smooth



The KIPPflexX 5-axis vice features excellent stability and flexibility, and is extremely easy to use. The KIPPflexX 5-axis vice can be used as a positive-down force vice or normal vice. When the positive down force function is used, the workpiece can be held with a repeat accuracy of ± 0.01 mm. A workpiece clamping height of 180 mm enables easy access during machining. The clamping width is preset using the crank handle, cutting down on setup times. Additionally, the closed geometries and the resistance to dirt that they provide keep maintenance and repair times to a minimum.

Material:

Steel.

Version:

Baseplate and workpiece support hardened.

Sample order:

K1555.124001251800

Note:

Additional product information can be found in the operating instructions.

Method of operation:

Quick adjustment using crank handle.

Advantages:

For use as centric-clamping device with positive down force function or vice.
Straightforward, infinite clamping width adjustment using crank handle.
Optimum clamping height for 5-axis machining.
Flexible options for connection to machine tables.

On request:

Various spare parts, larger clamping widths.

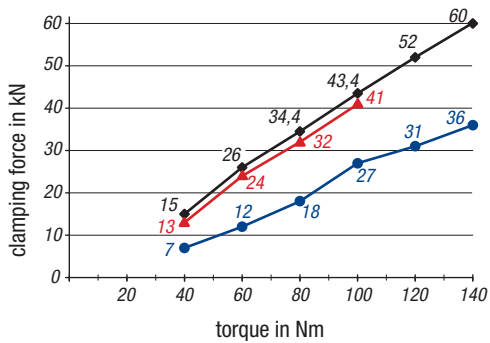
Supplied with:

KIPPflexX 5-axis vice with smooth jaw plates,
threaded spindle, 3 adapter shafts (60, 120, 180),
crank handle, ring bolt for hoisting and operating instructions.

KIPPFlexX 5-axis vice

jaw plates smooth

5-axis vice KIPPFlexX clamping force diagram



- Spindle tractive force
- ▲ Normal vice / clamping blanks
- Positive-down effect clamping by 1 mm travel

Accessories:

Jaw plates with pins K1557.1251
 Jaw plates, machinable K0975.1252
 Seating ledges K0974
 Extension shafts K0990
 Cylinder clamping set K0989.12535
 Stop set K0993.150
 Clamping claw sets K1008
 Fitted bolts K0815.12065
 Socket head screws K0869.12X60
 Torque wrench K1489.01
 Clamping pin K0967
 Slot nuts K0954.14X20

Clamping force:

see diagram

Applications:

Suitable for T-slot and grid hole tables and zero-point clamping systems.

Tolerances:

With a clamping depth of > 5 mm, the repeat accuracy while the positive down force function is being used is ± 0.01 .

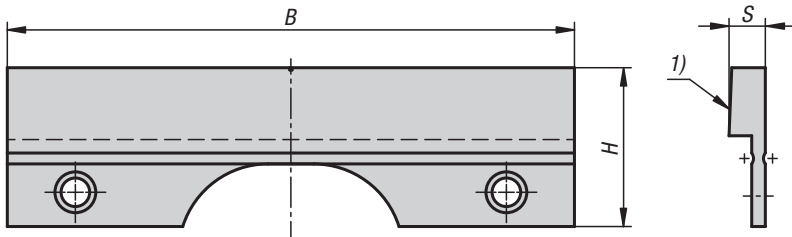
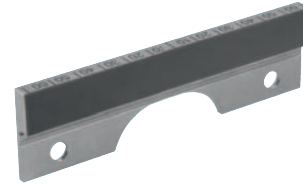
KIPP KIPPFlexX 5-axis vice jaw plates smooth

Order No.	B	H	H1	L	Tractive force max. kN
K1555.124001251800	125	180	200	400	see diagram



Smooth jaw plates

KIPPflexX 5-axis vice



The smooth jaw plates are used for pull-down clamping of pre-machined and ground workpiece surfaces.

Material:
Steel.

Version:
Hardened, bright.
Laser marked scale.
Clamping surface carbide coated.

Sample order:
K1557.1250

Note:
Additional product information can be found in the operating instructions.

Accessories:
Torx screws M6x10

Applications:
For pre-machined and ground workpiece surfaces

Drawing reference:
1) Clamping surface carbide coated

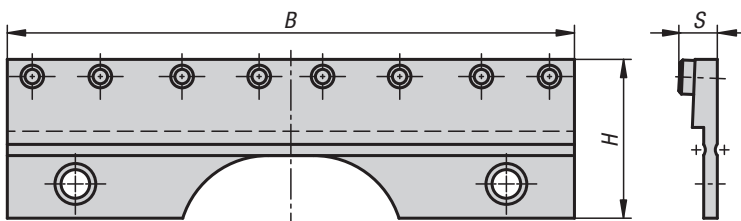
60	50	40	30	20	10	10	20	30	40	50	60
----	----	----	----	----	----	----	----	----	----	----	----

KIPP Smooth jaw plates, KIPPflexX 5-axis vice

Order No.	B	H	S
K1557.1250	125	35	8,5

Jaw plates with pins

KIPPflexX 5-axis vice



The jaw plates with pins are used for positive clamping without pre-forming; e.g. on blanks, castings and for roughing out.

Material:
Steel.

Version:
Hardened, bright jaw plates.
Hardened, black-oxidised jaw pins.
Laser marked scale.

Sample order:
K1557.1251

Note:
Additional product information can be found in the operating instructions.

Accessories:
Torx screws M6x10

Applications:
Positive clamping without pre-forming.

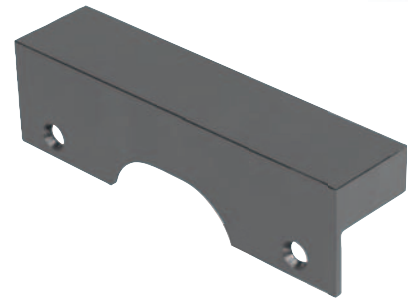
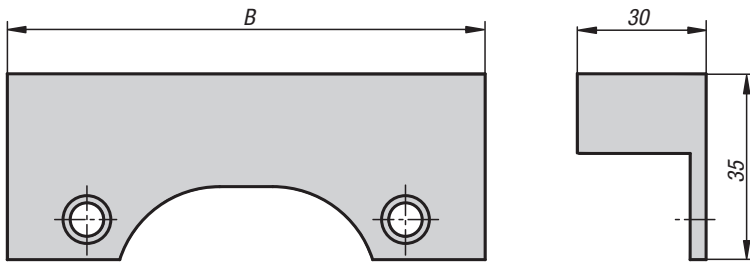
KIPP Jaw plates with pins, KIPPflexX 5-axis vice

Order No.	No. of pins	B	H	S
K1557.1251	8	125	35	8,5

K0975

Jaw plates

machinable



Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0975.0902

Note for ordering:
Supplied singly.

Note:
Machinable jaw plates are ideal for gripping on workpiece contours and machining in steps.

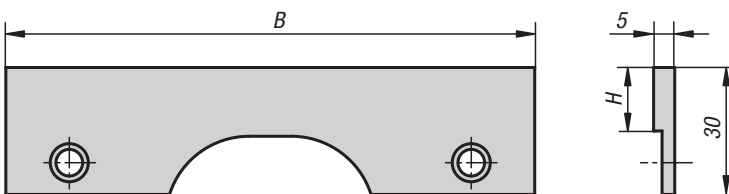
KIPP Jaw plates, machinable

Order No.	B
K0975.0902	90
K0975.1252	125

K0974

Seating ledges

screw-on



Material:
Steel.

Version:
Bright.

Sample order:
K0974.0900515

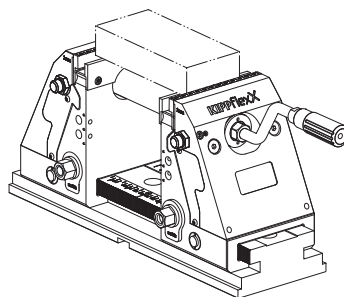
Note:
Screw-on seating ledges are used to set the seating height of the workpiece. The desired seating height is achieved by milling over the screwed on ledges. A very high accuracy of the height to the machine table can be achieved.

Supplied in pairs.

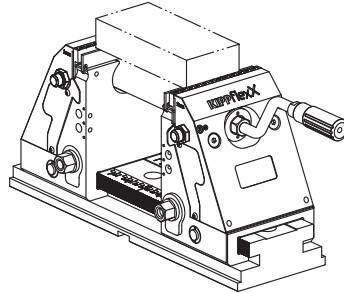
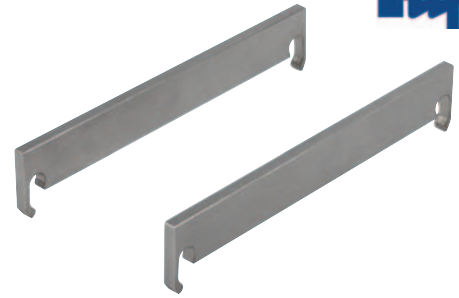
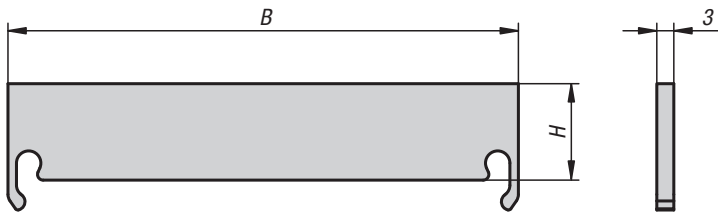
Accessories:
for K0973, K1555

KIPP Seating ledges, screw-on

Order No.	B	H
K0974.0900515	90	15
K0974.1250515	125	15



Seating ledges



Material:
Hardened steel

Version:
Bright.

Sample order:
K0974.0900312

Note:
The seating ledges are suitable for adjusting the clamping depth of the workpiece on the compact 5-axis clamping system/ KIPPflexX. The 12 mm version does not interfere with the positive-down effect. By the 17 mm version, the positive-down force is reduced but causes less edge deformation.

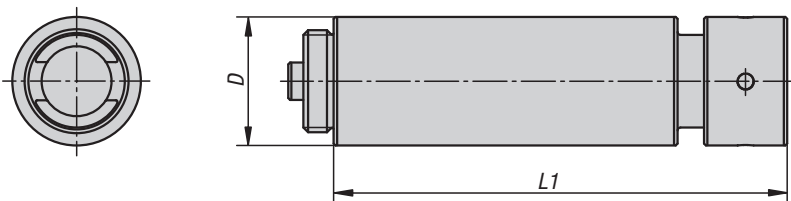
Supplied in pairs.

Accessories:
for K0973, K1555

KIPP Seating ledges

Order No.	B	H
K0974.0900312	90	12
K0974.0900317	90	17
K0974.1250312	125	12
K0974.1250317	125	17

Extension shafts



Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0990.060

Note:
For setting the clamping width.
Supplied with union nut.
The extension shafts can be combined as required.

KIPP Extension shafts

Order No.	D	L1	Clamp range
K0990.060	34	60	extension by 60 mm
K0990.120	34	120	extension by 120 mm
K0990.240	34	240	extension by 240 mm
K0990.480	34	480	extension by 480 mm

Adapter shafts



Material:

Carbon steel.

Version:

Black oxidised.

Sample order:

K0991.060

Note:

For setting the clamping width.

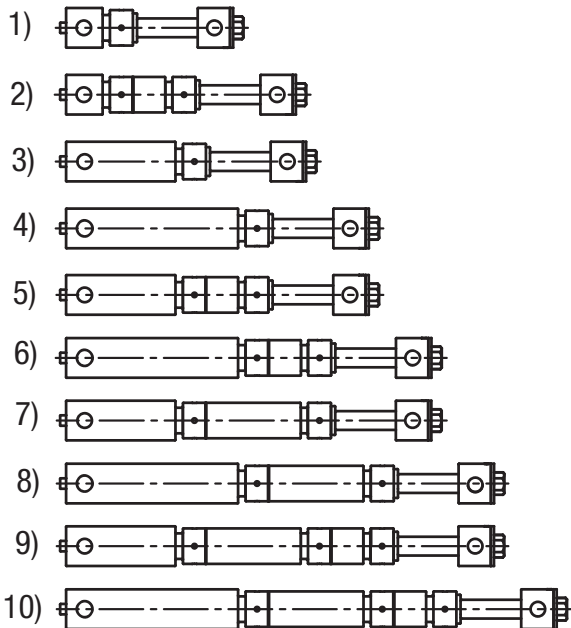
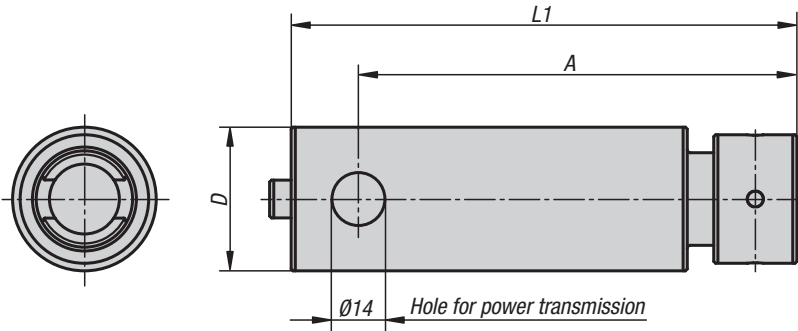
Supplied with union nut.

The adapter shafts are linked to the vice jaws by the lateral holes.

An adapter shaft must be mounted in every compact 5-axis clamp/KIPPflexX.

Drawing reference:

- 1) Clamping width 20-72 mm - Adapter shaft 60 mm + threaded spindle
- 2) Clamping width 72-135 mm - Adapter shaft 60 mm + expansion rod 60 mm + threaded spindle
- 3) Clamping width 80-140 mm - Adapter shaft 120 mm + threaded spindle
- 4) Clamping width 140-200 mm - Adapter shaft 180 mm + threaded spindle
- 5) Clamping width 140-200 mm - Adapter shaft 120 mm + extension shaft 60 mm + threaded spindle
- 6) Clamping width 200-260 mm - Adapter shaft 180 mm + extension shaft 60 mm + threaded spindle
- 7) Clamping width 200-260 mm - Adapter shaft 120 mm + extension shaft 120 mm + threaded spindle
- 8) Clamping width 260-320 mm - Adapter shaft 180 mm + extension shaft 120 mm + threaded spindle
- 9) Clamping width 260-320 mm - Adapter shaft 120 mm + extension shaft 120 mm + extension shaft 60 mm + threaded spindle
- 10) Clamping width 320-380 mm - Adapter shaft 180 mm + extension shaft 120 mm + extension shaft 60 mm + threaded spindle



KIPP Adapter shafts

Order No.	A	D	L1	Clamp range
K0991.060	56	38	74	20-80
K0991.120	116	38	134	80-140
K0991.180	176	38	194	140-200

Baseplates

KIPPflexX 5-axis vice



The baseplates offer versatile connection options. The locating slots on the underside can be used to perform alignment directly on the machine table using slot keys. Fastening in 12F7 grid holes with grid spacing of 50 mm is also possible. Claw clamps or separate clamping devices can be located on the side recess. The baseplate is also suitable for all standard zero-point clamping systems with a centre distance of 200 mm. The integrated central hole can also be used for alignment. In this case, a specific centre pin is used to perform central alignment on the machine table.

Material:
Steel.

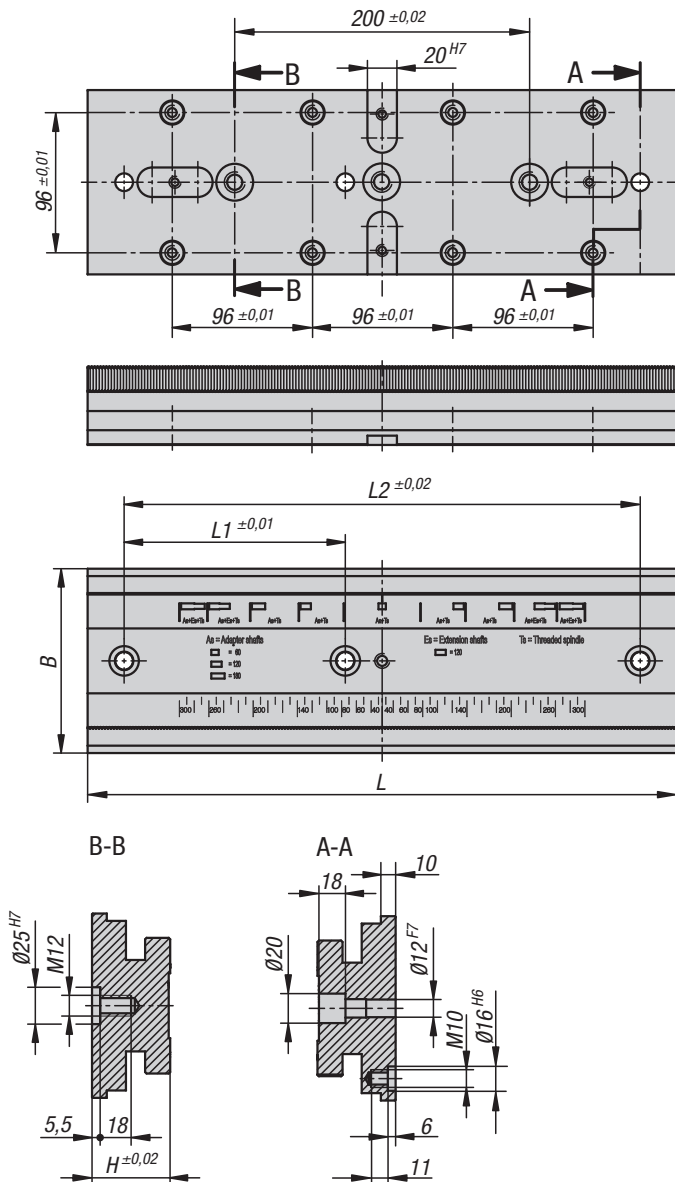
Version:
Hardened and black oxidised.
Contact faces ground.

Sample order:
K1556.125400

Note:
Additional product information can be found in the operating instructions.

On request:
other dimensions.

Applications:
Suitable for T-slot tables, basic elements with grid holes and zero-point clamping systems.



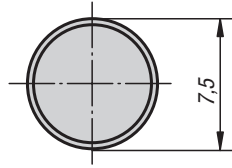
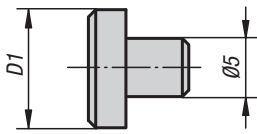
KIPP Baseplates, KIPPflexX 5-axis vice

Order No.	B	L
K1556.125400	125	400

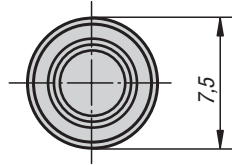
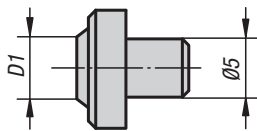
Jaw pins



flattened



cup point



Material, version:
Tool steel, hardened.

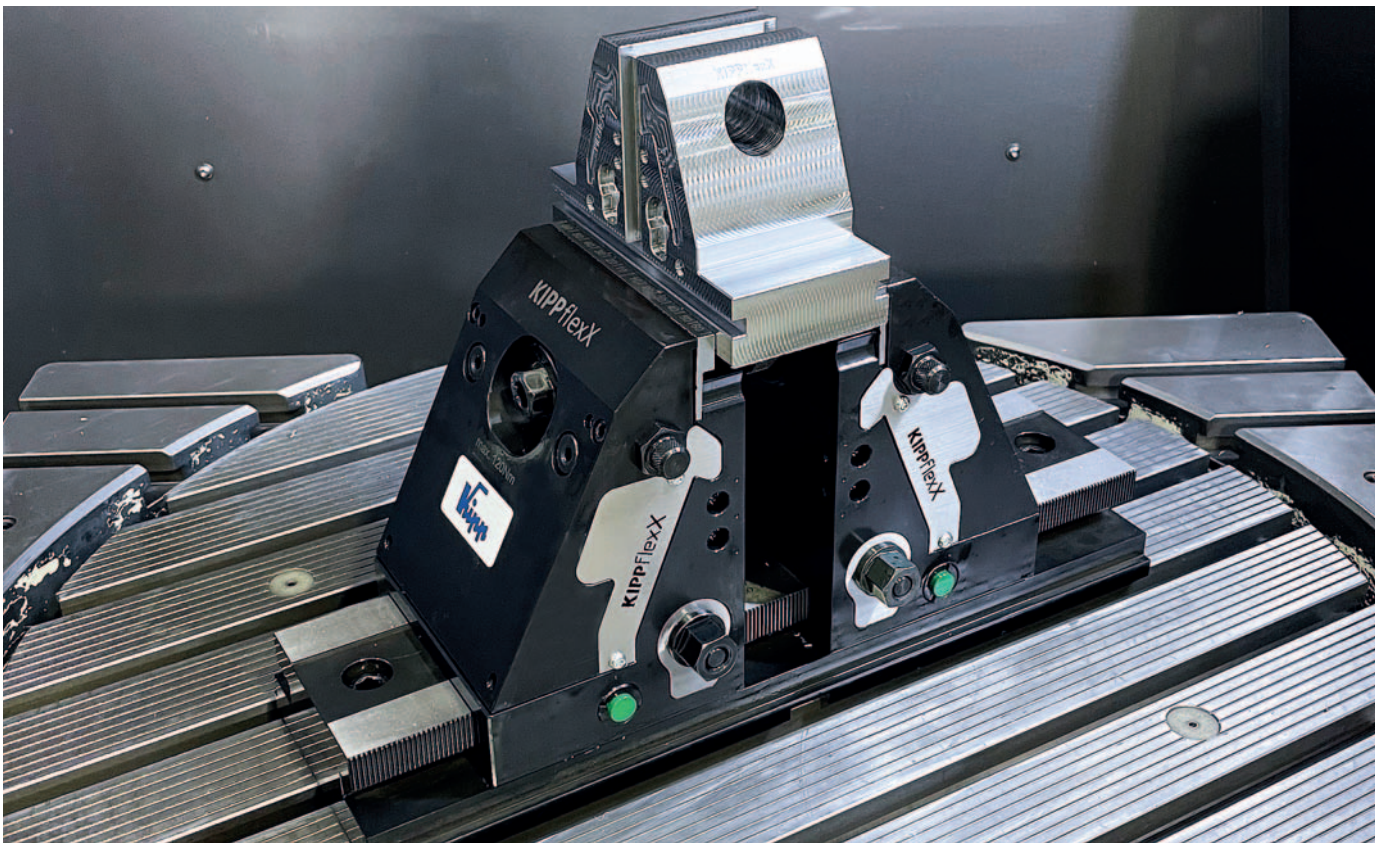
Sample order:
K0946.05600

Note:
Suitable for standard jaw plates and jaw adapters of round workpieces.
Installed by pressing in.

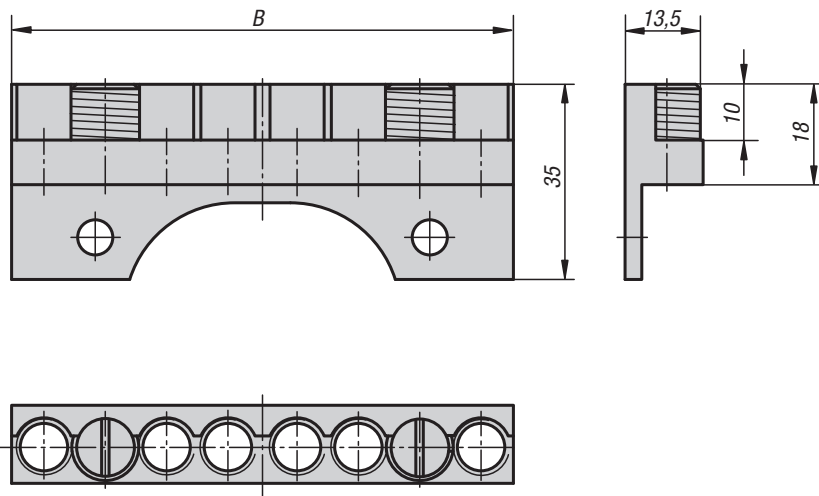
KIPP Jaw pins

Order No.	Version 1	D1	Application
K0946.05000	flattened	7,5	material over 1000 N/mm ² tensile strength
K0946.05400	cup point	4	material up to ca. 1000 N/mm ² tensile strength
K0946.05600	cup point	6	material up to ca. 1000 N/mm ² tensile strength

Applications



Cylinder clamping sets



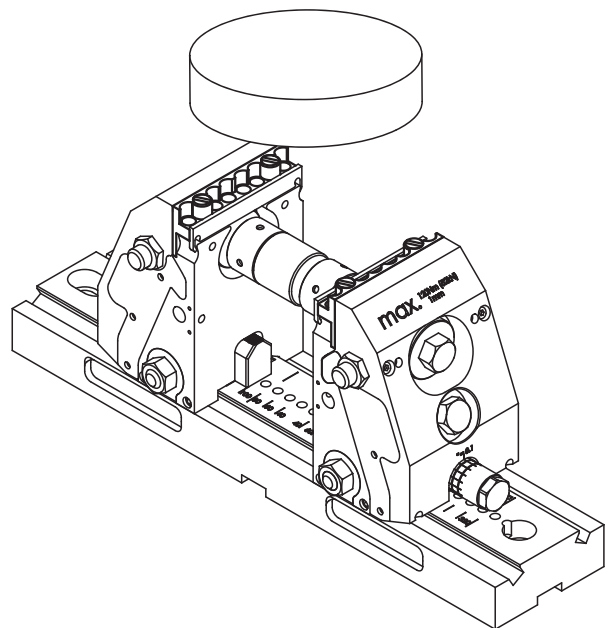
Material:
Tool steel.

Version:
Vice jaw hardened, bright.
Pins hardened, black oxidised.

Sample order:
K0989.09035

Note:
For holding round workpieces.
Max. clamping travel of jaw is 1 mm.

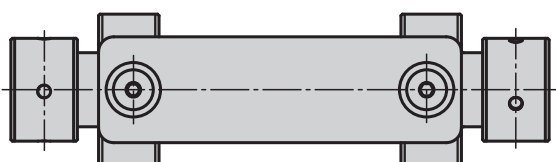
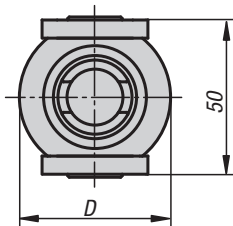
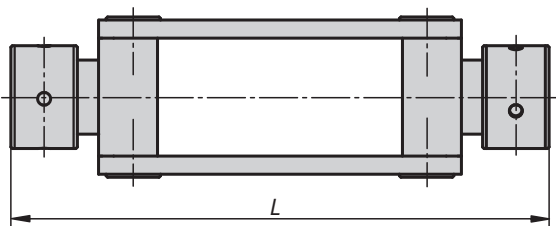
Supplied in pairs.



KIPP Cylinder clamping sets

Order No.	B	Clamping range min. - max.
K0989.09035	90	20 mm - 250 mm
K0989.12535	125	20 mm - 320 mm

Couplings for cross-clamping

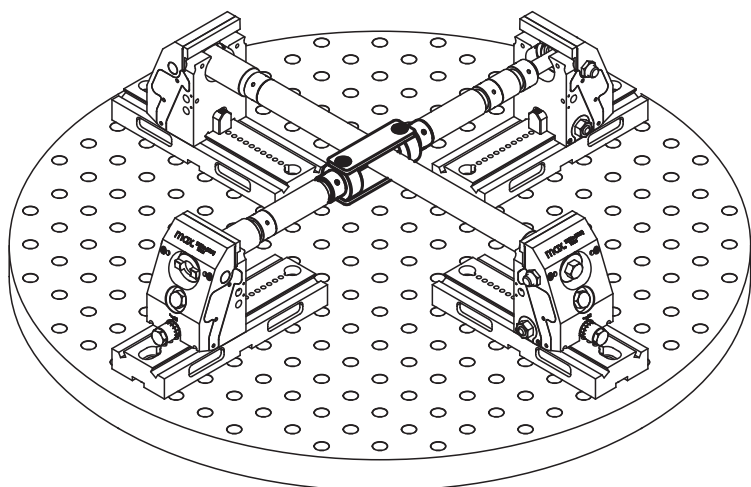


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0992.178

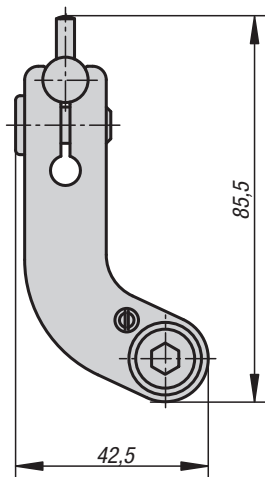
Note:
Two 5-axis clamping systems can be connected using a coupling for cross-clamping, allowing a workpiece to be held on four sides.



KIPP Couplings for cross-clamping

Order No.	D	L
K0992.178	50	178

Stop sets



Material:

Steel.

Version:

Swivel arm, black oxidised.

Stop pin bright.

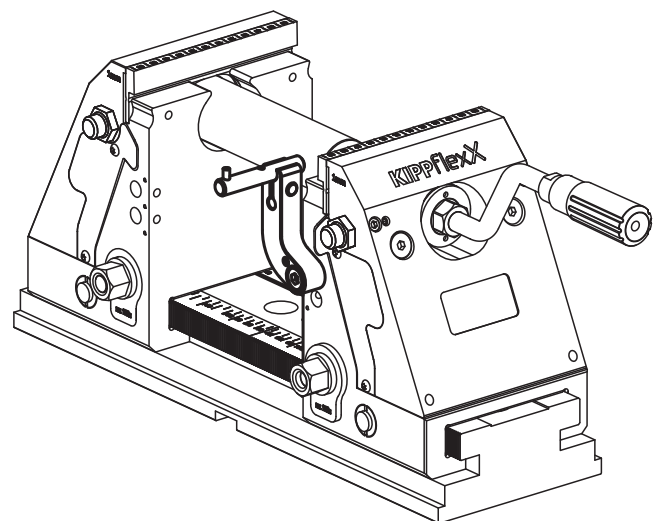
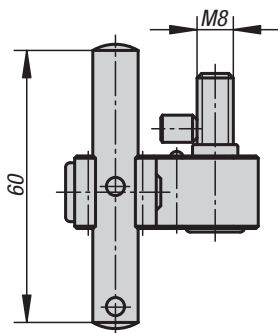
Sample order:

K0993.150

Note:

Stop set for direct fastening to jaws. The stop can be swivelled aside for machining the workpiece without losing the stop dimension.

Supplied complete with attachment parts.



KIPP Stop sets

Order No.

Suitable for

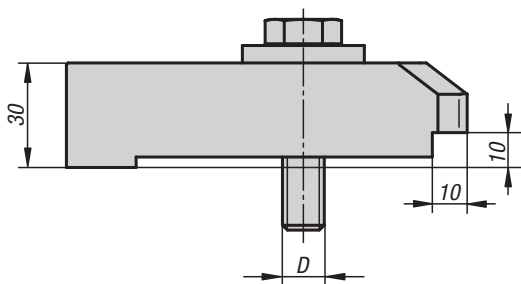
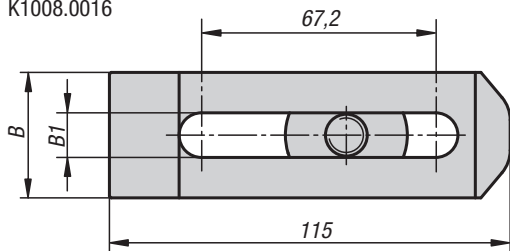
K0993.150

5-axis vice

Clamping claw sets



K1008.0012
K1008.0016



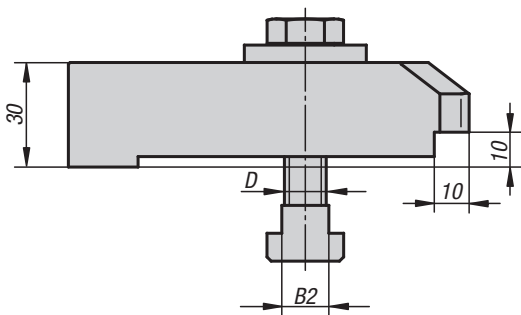
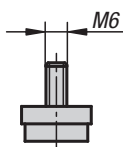
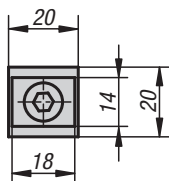
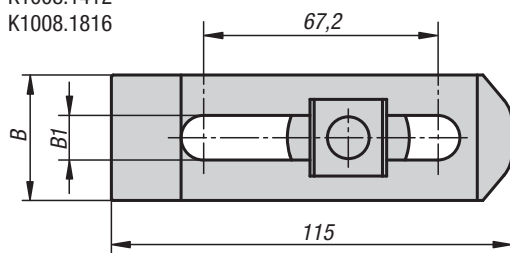
Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K1008.0012

Note:
Clamping claw set for compact 5-axis clamping system/ KIPPflexX.
All common T-slots, grid and fastening hole spacings can be covered.

K1008.1412
K1008.1816



KIPP Clamping claw sets

Order No.	B	B1	B2	D
K1008.0012	40	12,8	-	M12
K1008.0016	40	16,8	-	M16
K1008.1412	40	12,8	13,5	M12
K1008.1816	40	16,8	17,5	M16

Torque wrench

for 5-axis clamping system



Material:

Steel.

Version:

Surface: hard chromed

Sample order:

K1489.01

Note:

Torque wrench 40-200 set:
 Precision +/- 3% of the scale value (in direction of actuation)
 (5107-3 CT +/- 4% release precision)
 Secure: - haptic (short path trip)
 - acoustic (snap element)
 Designed for rough workshop use.
 Broad spectrum of use for controlled screw tightening. Applications in industry and trades.
 Optimised sealing ring for protection from foreign matter.
 Ratchet repair set for customer-oriented self-assembly permits use for decades.
 Handle with anti-roll for easier power transmission through more grip.
 Adjustment aid through indexing points for optimised operator guidance guarantees secure and fast setting of the desired torque value by turning the handle.
 Secure locking of the setting values through detent on the swivel head.
 Lock symbols signal the respective locking condition.
 Possibility to fasten rope loop through openings on the locking mechanism swivel head.
 Easily readable, contrast-rich scale.
 Permanent readability through laser labelling of the scale sleeve.
 Integrated switch lever.
 Certified acc. to DIN EN ISO 6789-2:2017.
 With calibration certificate and serial number.
 Supplied in stable hexagonal hinged box.
 Square acc. to DIN 3120, ISO 1174-1, DIN EN ISO 6789-2:2017.

Key insert (hex):

With knurling
 Surface: chrome-plated, polished
 DIN 3124, ISO 2725-1

Recommendation:

Annual check interval for torque wrenches, in which the upper limit is 5,000 load cycles.

Supplied with:

Set comprising:
 Torque wrench
 Key insert SW17
 Key insert SW19

Functional principle:

Operating principle of torque wrench

Unlock.

Press handle ca. 8 mm forward and rotate in the desired direction.

Continue to turn handle to set the desired torque.

Turn the handle backwards a little.

Lock.

Suitable for:

3 Axis clamping system

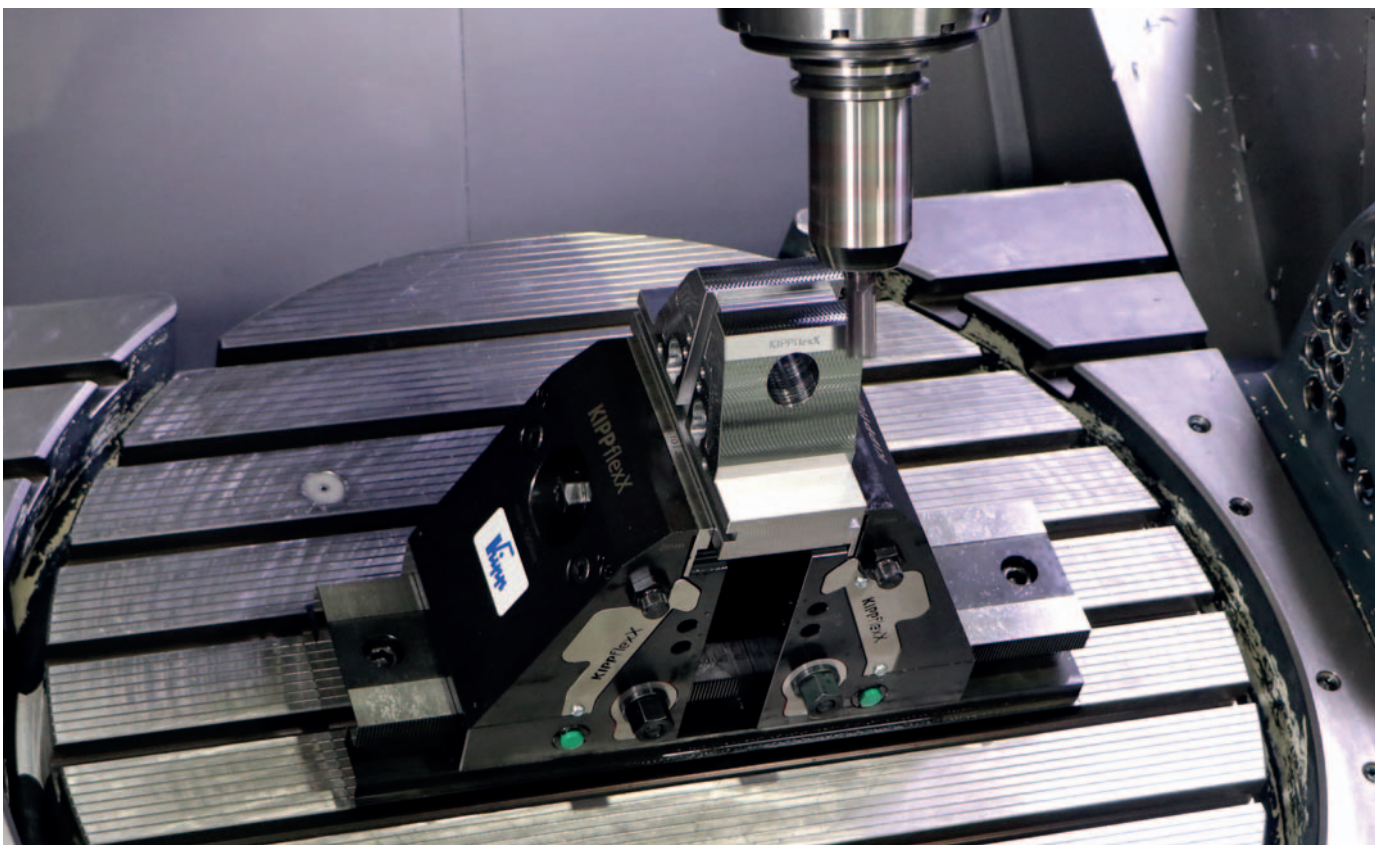
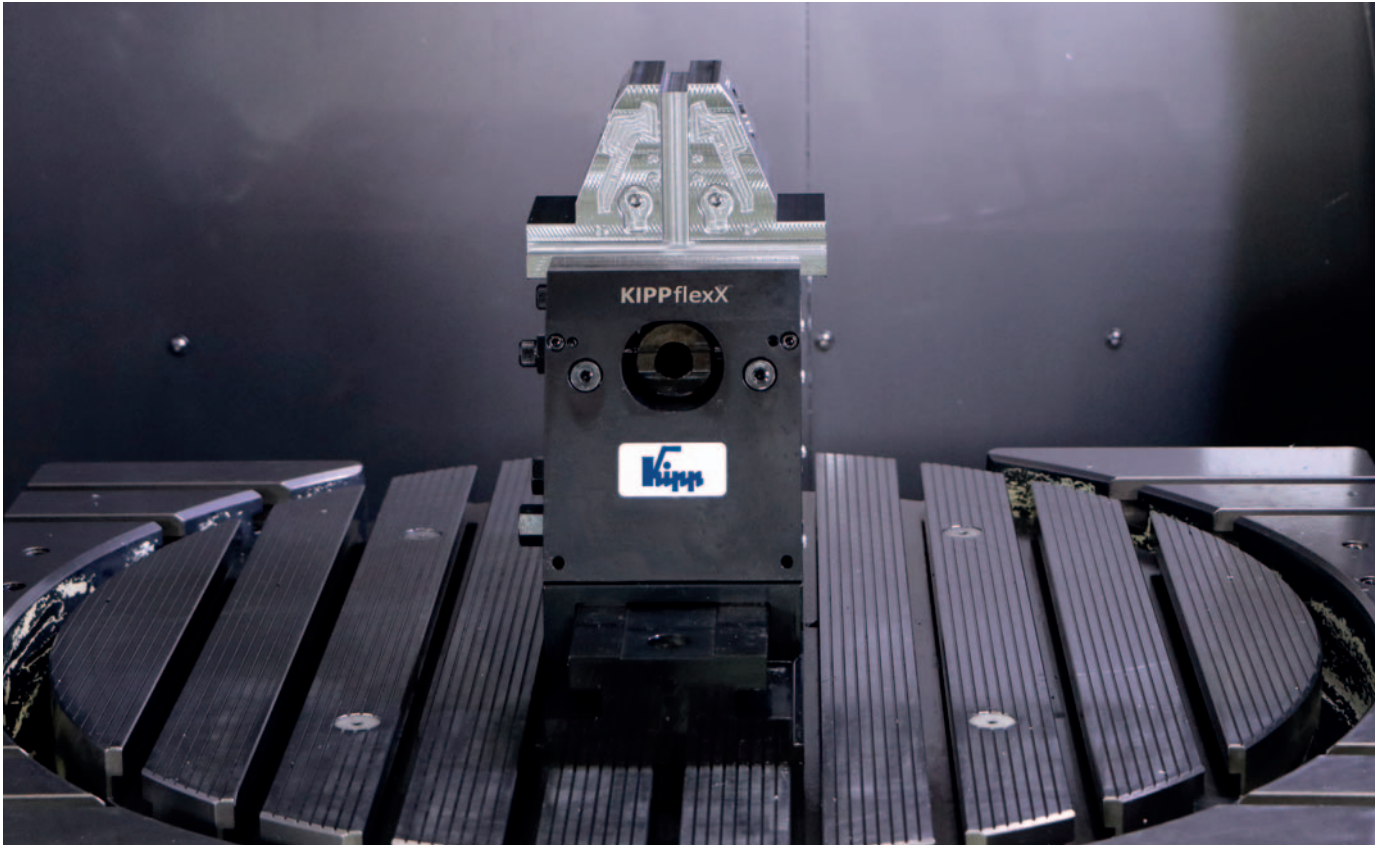
5 Axis clamping system

5 Axis Clamping system compact

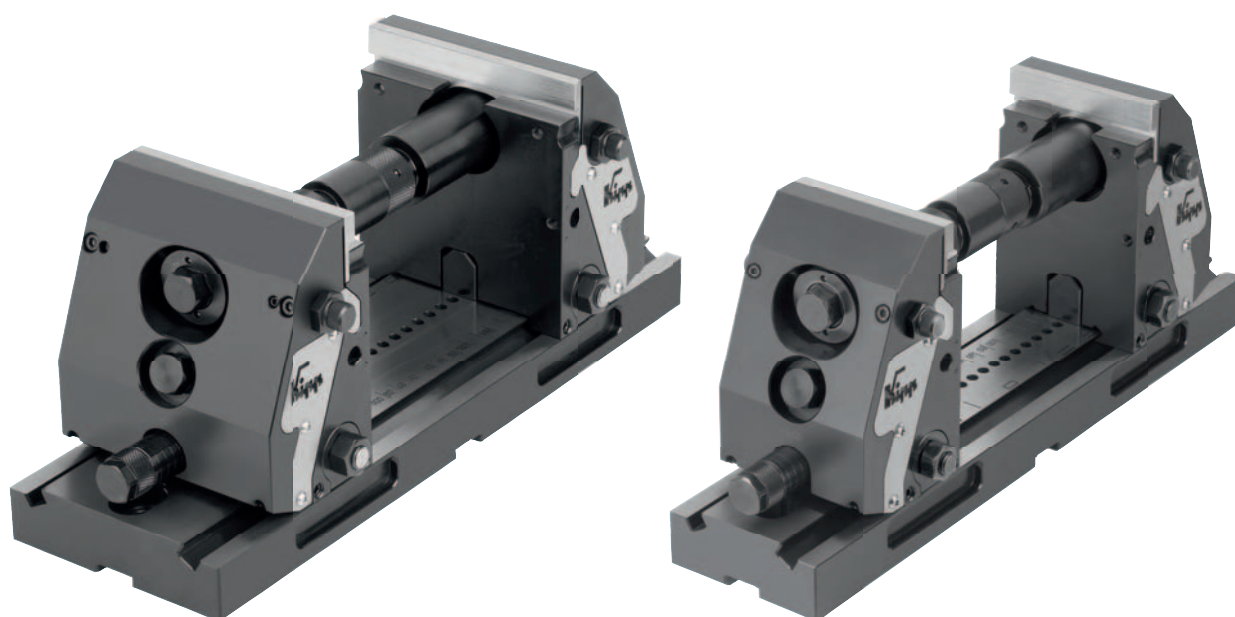
KIPPFlexX 5-axis vice

KIPP Torque wrench for 5-axis clamping system

Order No.	Item	Version 1	Product type	Torque Nm
K1489.01	Torque Wrench	set	revolving grip	40 - 200



5-axis clamping system compact



5-axis clamping system compact



Function

We are setting standards with the new „KIPP 5-axis clamping system compact“ in this field. The system was specifically designed for the optimal machining of complex workpieces on modern 5-axis machines.

The intelligent clamping technology increases clamping rigidity for the highest cutting and feed forces. The optimal accessibility to the workpiece allows short, standard tooling to be used. Tooling costs are significantly reduced.



- 1** Positioning unit with jaw plate
- 2** Vice jaws
- 3** Fine adjustment with knurled screw
- 4** Clamping screw
- 5** Extension shafts
- 6** Base plate

ADVANTAGES:

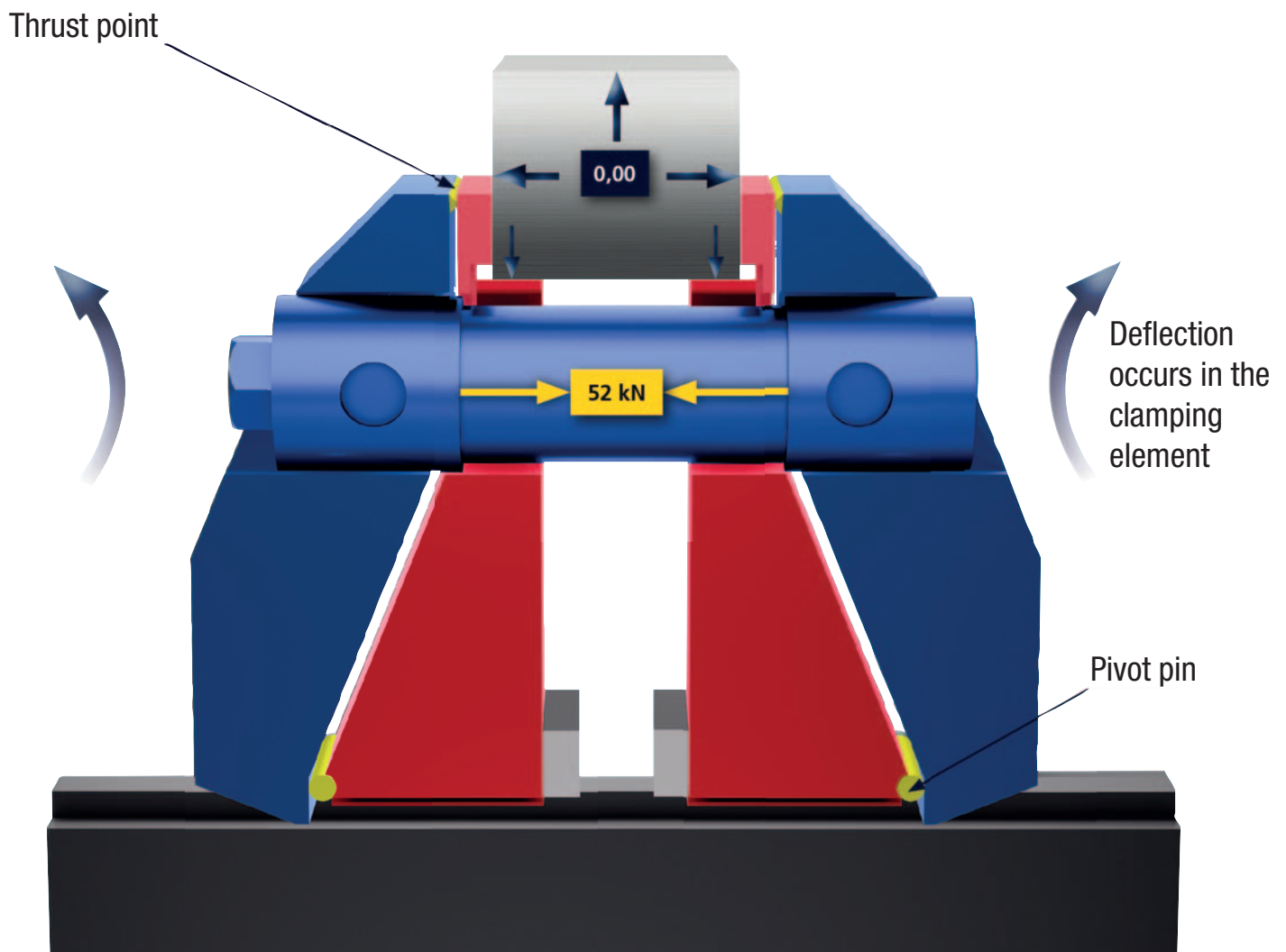
- Very high tractive force
- High stiffness in the system
- Pull-down function of the jaw plates on both sides
- Optimum fine adjustment of the jaw plates on the workpiece
- Increased tool service life
- The workpiece is always centred due to the systematic construction
- Large clamping width, 20 mm to 320 mm, freely extendable
- Clamping depth adjustable from 3 to 20 mm using seating ledges
- Best tool accessibility from all sides
- Easy to clean

Forces

The new clamping technology ensures force flow separation and workpiece positioning. The intelligent force distribution in the system allows only weak forces to be transferred to the machine table.

NEW CLAMPING TECHNOLOGY PATENT PENDING

- Division of force flow and positioning
- Highest clamping force on the workpiece
- Maximum stiffness
- Centric tension



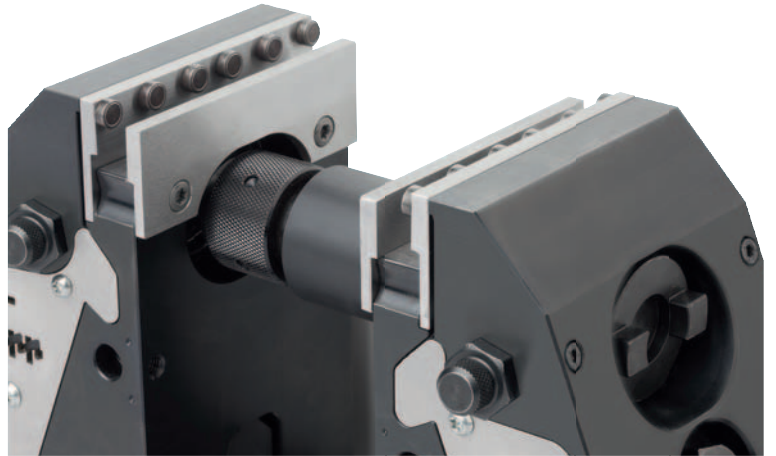
- Clamping elements
- Locators



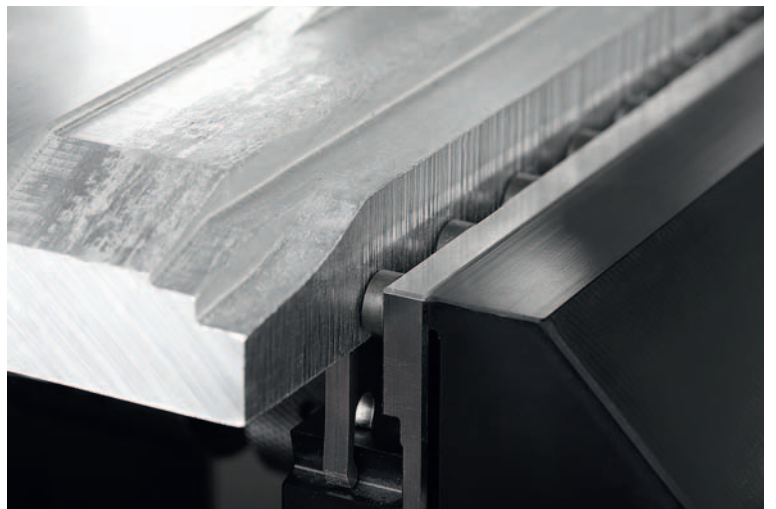
Applications



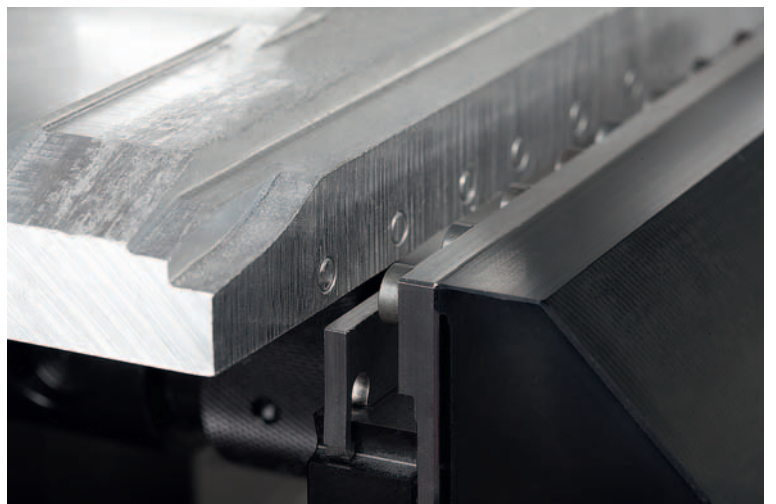
5-axis clamping system compact incl. jaw with pins for clamping unmachined parts, and screw-on seating ledges. The clamping depth can be determined by machining the ledge.



Clamped blank. Sure set-up through positive clamping pins.



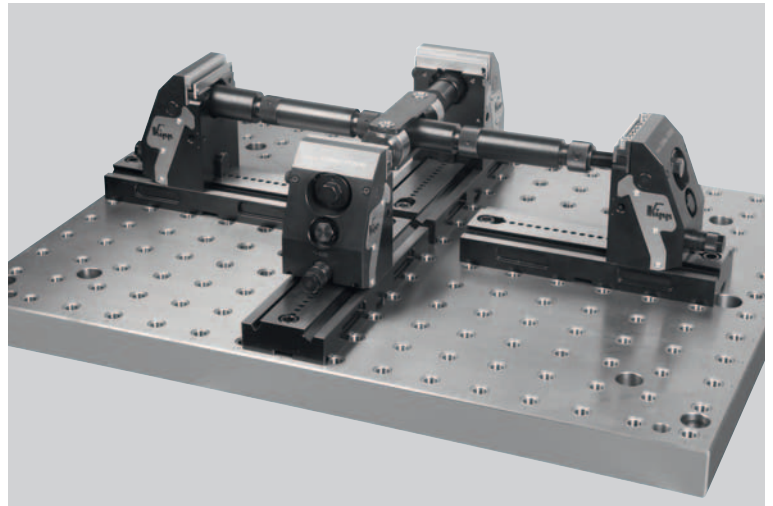
Blank after clamping. Clamping pin imprint is visible on the edge of the workpiece.



Applications



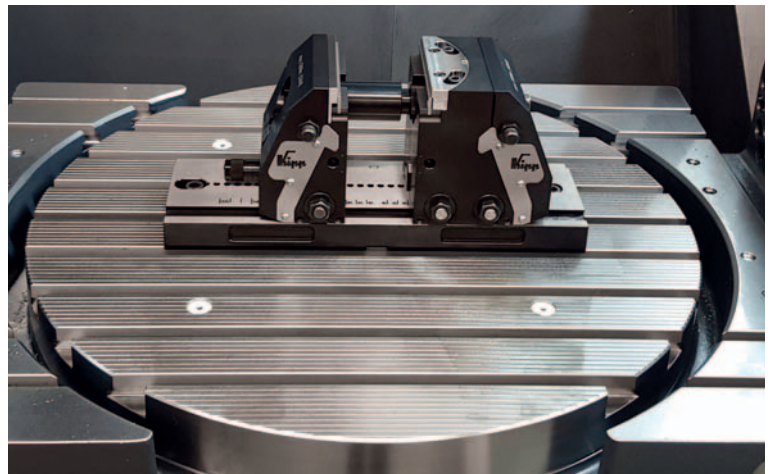
With the coupling for cross-clamping, two 5-axis clamping systems can be compactly connected with each other offset by 90 degrees. Setups for workpieces with different dimensions of 4 sides are possible.



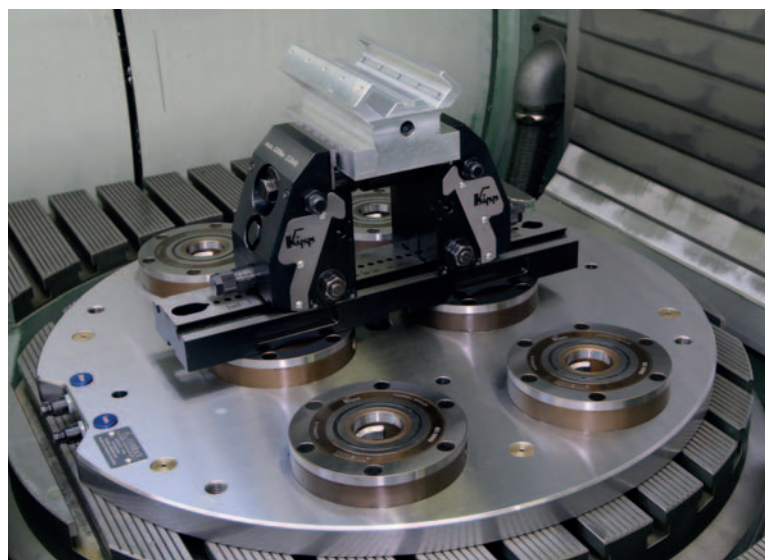
5-axis clamping system compact positioned directly on the machine table.

Use of pendulum jaws which also act as fixed jaws.

Workpiece clamping with smooth jaws.

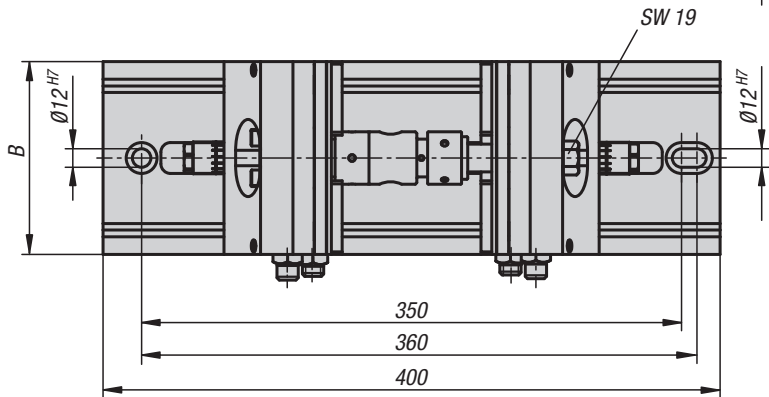
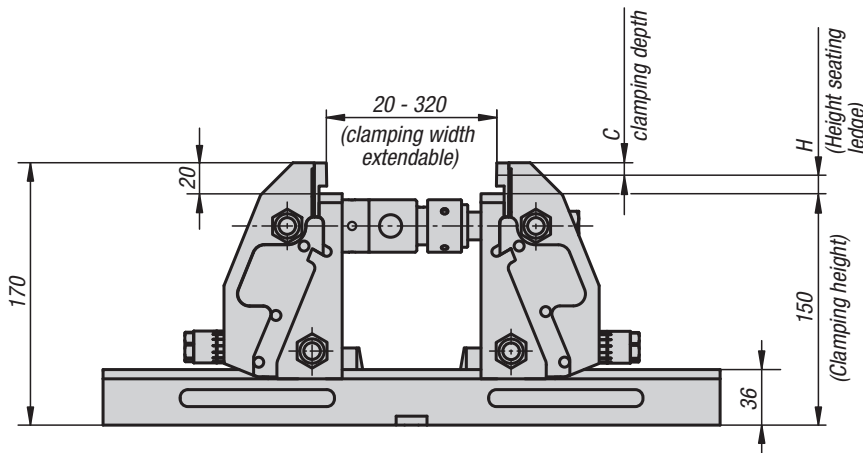
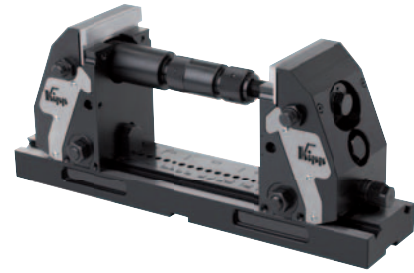


Positioning directly on the KIPP zero-point clamping system with integrated clamping pins in the 5-axis vice compact baseplate.

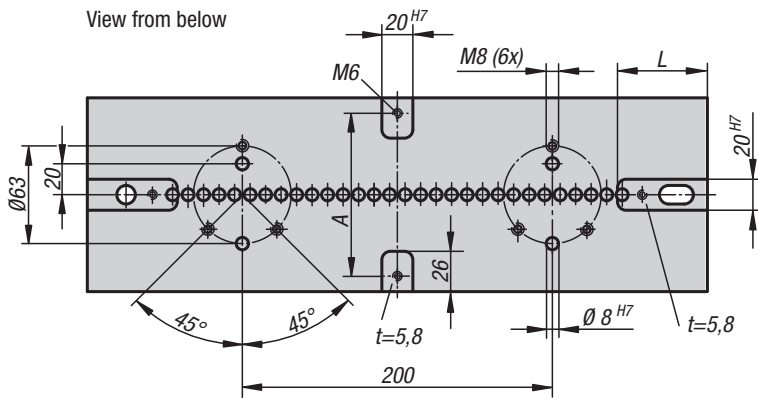


5-axis clamping system compact

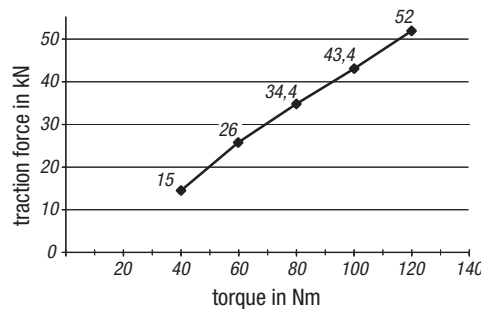
smooth vice jaws



View from below



Tractive force 5-axis clamping system compact



Material:

Base plate and jaw hardened steel.
Vice jaws tool steel.

Version:

Jaws black oxidised.
Jaw plates bright.

Sample order:

K0973.124000901500

Note:

The easy operability and rapid adjustment using a scale means that the clamping jaws can be quickly and surely adapted to new workpieces. The workpiece is always centred through the systematic construction of the 5-axis compact clamping system. The optimal accessibility to the workpiece allows short, standard tooling to be used. Tooling costs are significantly reduced.

Positive down force by a clamping depth of >5 mm. Clamping widths of 20 mm to 320 mm are possible.

Assembly:

The 5-axis clamping system compact can be mounted on T-slot tables, grid systems or, using an adapter flange on conventional zero-point clamping systems.

Supplied with:

- Baseplate K0994
- Clamping jaw K0976
- Extension shaft K0990.060
- Extension shaft K0990.120
- Adapter shaft K0991.060
- Adapter shaft K0991.120
- Threaded spindle K0940.999.002
- Spindle nut K0940.999.003

Accessories:

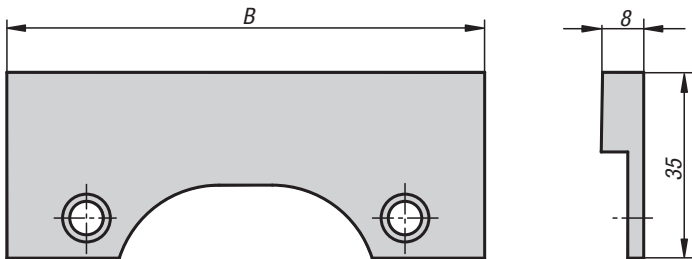
- Seating ledges K0974
- Jaw plates K0975
- Pendulum jaws K0988
- Centre jaws K0987
- Coupling for cross-clamping K0992

Order the seating ledges and jaw plates with pins separately.

KIPP 5-axis clamping system compact, smooth vice jaws

Order No.	A	B	C	H	L	Tractive force max. kN	Suitable shoulder screw	weight kg
K0973.124000901500	70	90	8/3	12/17	57,5	52	K0815.12055	21,96
K0973.124001251500	105	125	8/3	12/17	58	52	K0815.12055	30,16

Jaw plates smooth



Material:
Tool steel.

Version:
Hardened, bright.

Sample order:
K0975.0900

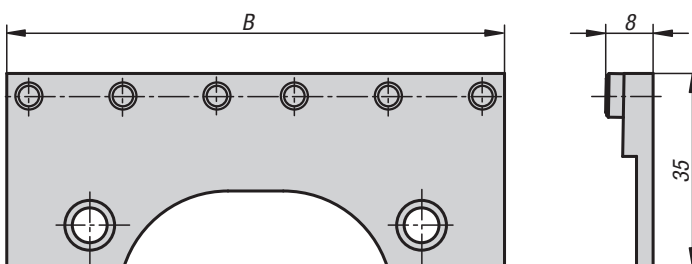
Note:
For clamping pre-machined workpieces and for final machining.

Supplied singly.

KIPP Jaw plates smooth

Order No.	B
K0975.0900	90
K0975.1250	125

Jaw plates with pins



Material:
Tool steel.

Version:
Plate hardened, bright.
Pins hardened, black oxidised.

Sample order:
K0975.0901

Note:
For positive clamping without preforming, e.g. rough pieces, heavy cutting, castings etc.

Supplied singly.

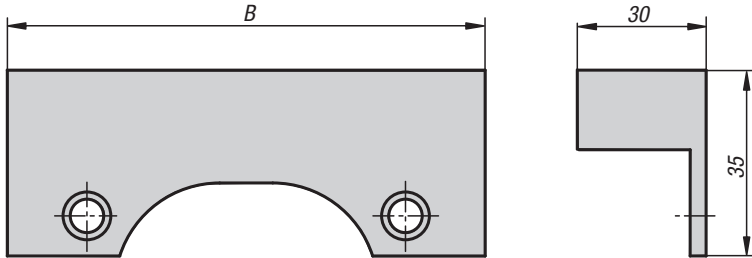
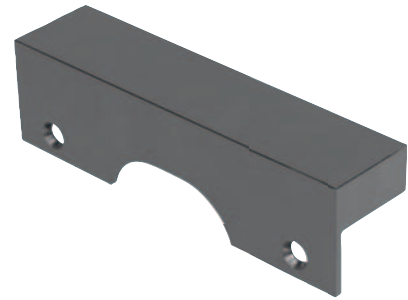
KIPP Jaw plates with pins

Order No.	B	No. of pins
K0975.0901	90	6
K0975.1251	125	8

K0975

Jaw plates

machinable



Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0975.0902

Note for ordering:
Supplied singly.

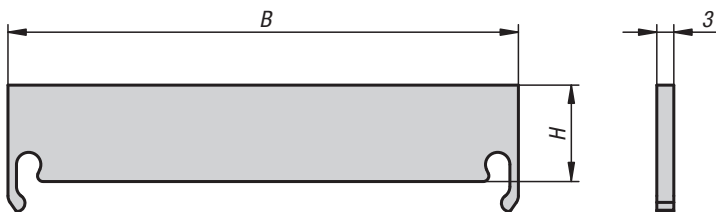
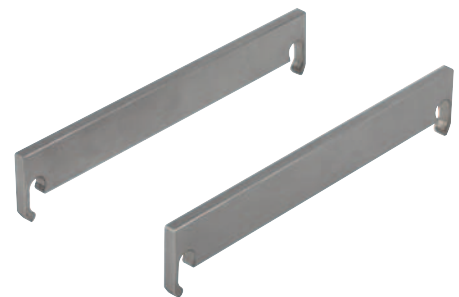
Note:
Machinable jaw plates are ideal for gripping on workpiece contours and machining in steps.

KIPP Jaw plates, machinable

Order No.	B
K0975.0902	90
K0975.1252	125

K0974

Seating ledges



Material:
Hardened steel

Version:
Bright.

Sample order:
K0974.0900312

Note:
The seating ledges are suitable for adjusting the clamping depth of the workpiece on the compact 5-axis clamping system/ KIPPflexX. The 12 mm version does not interfere with the positive-down effect. By the 17 mm version, the positive-down force is reduced but causes less edge deformation.

Supplied in pairs.

Accessories:
for K0973, K1555

KIPP Seating ledges

Order No.	B	H
K0974.0900312	90	12
K0974.0900317	90	17
K0974.1250312	125	12
K0974.1250317	125	17

Seating ledges

screw-on



Material:
Steel.

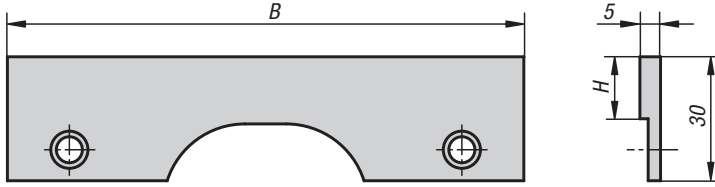
Version:
Bright.

Sample order:
K0974.0900515

Note:
Screw-on seating ledges are used to set the seating height of the workpiece. The desired seating height is achieved by milling over the screwed on ledges. A very high accuracy of the height to the machine table can be achieved.

Supplied in pairs.

Accessories:
for K0973, K1555

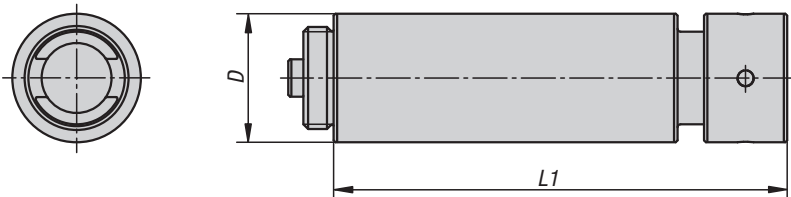


KIPP Seating ledges, screw-on

Order No.	B	H
K0974.0900515	90	15
K0974.1250515	125	15

K0990

Extension shafts



Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0990.060

Note:
For setting the clamping width.
Supplied with union nut.
The extension shafts can be combined as required.

KIPP Extension shafts

Order No.	D	L1	Clamp range
K0990.060	34	60	extension by 60 mm
K0990.120	34	120	extension by 120 mm
K0990.240	34	240	extension by 240 mm
K0990.480	34	480	extension by 480 mm

Adapter shafts



Material:

Carbon steel.

Version:

Black oxidised.

Sample order:

K0991.060

Note:

For setting the clamping width.

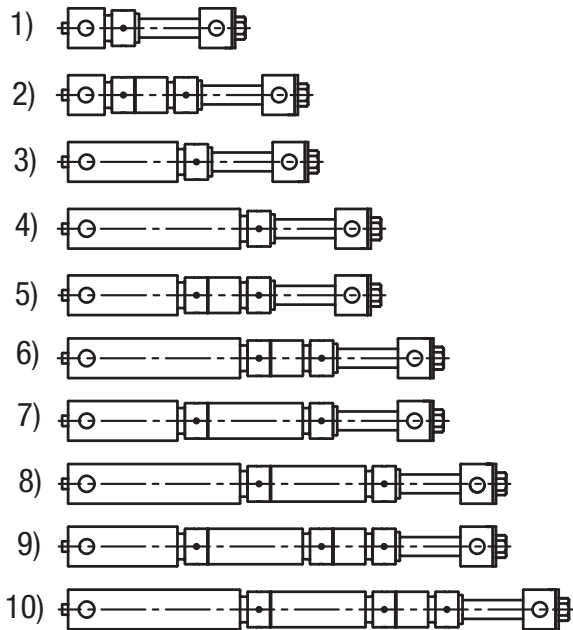
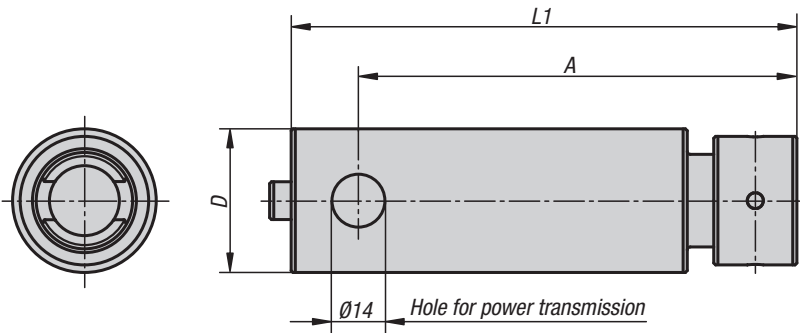
Supplied with union nut.

The adapter shafts are linked to the vice jaws by the lateral holes.

An adapter shaft must be mounted in every compact 5-axis clamp/KIPPflexX.

Drawing reference:

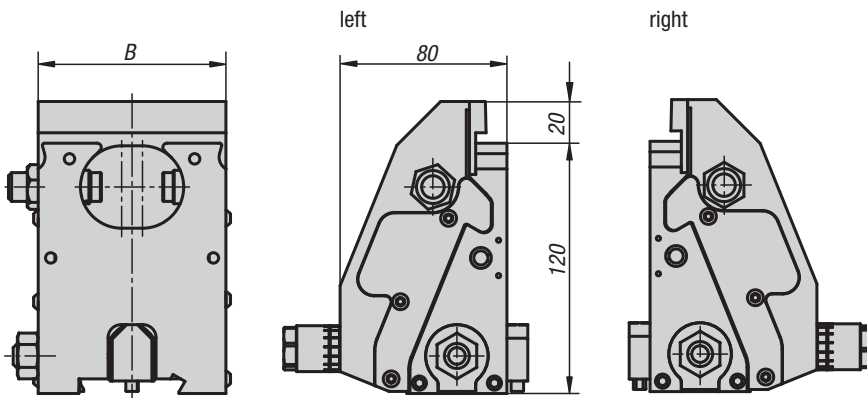
- 1) Clamping width 20-72 mm - Adapter shaft 60 mm + threaded spindle
- 2) Clamping width 72-135 mm - Adapter shaft 60 mm + expansion rod 60 mm + threaded spindle
- 3) Clamping width 80-140 mm - Adapter shaft 120 mm + threaded spindle
- 4) Clamping width 140-200 mm - Adapter shaft 180 mm + threaded spindle
- 5) Clamping width 140-200 mm - Adapter shaft 120 mm + extension shaft 60 mm + threaded spindle
- 6) Clamping width 200-260 mm - Adapter shaft 180 mm + extension shaft 60 mm + threaded spindle
- 7) Clamping width 200-260 mm - Adapter shaft 120 mm + extension shaft 120 mm + threaded spindle
- 8) Clamping width 260-320 mm - Adapter shaft 180 mm + extension shaft 120 mm + threaded spindle
- 9) Clamping width 260-320 mm - Adapter shaft 120 mm + extension shaft 120 mm + extension shaft 60 mm + threaded spindle
- 10) Clamping width 320-380 mm - Adapter shaft 180 mm + extension shaft 120 mm + extension shaft 60 mm + threaded spindle



KIPP Adapter shafts

Order No.	A	D	L1	Clamp range
K0991.060	56	38	74	20-80
K0991.120	116	38	134	80-140
K0991.180	176	38	194	140-200

Vice jaws complete



Material:

Jaws mild steel.
Jaw plates tool steel.

Version:

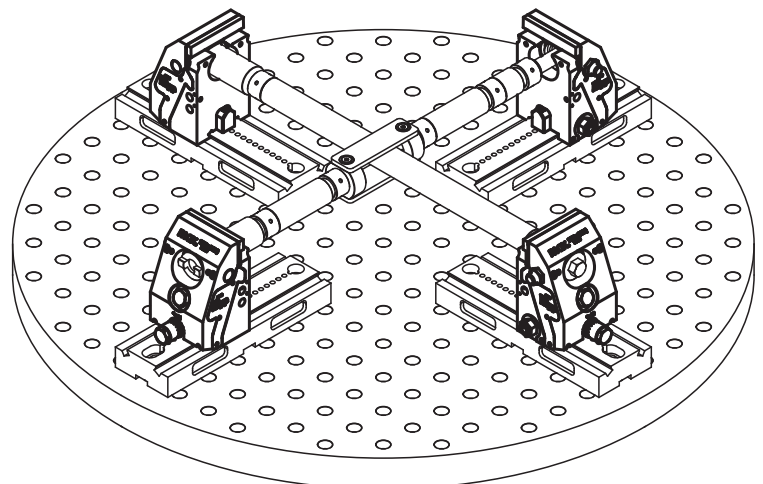
Jaws black oxidised.
Vice jaws bright.

Sample order:

K0976.09015010

Note:

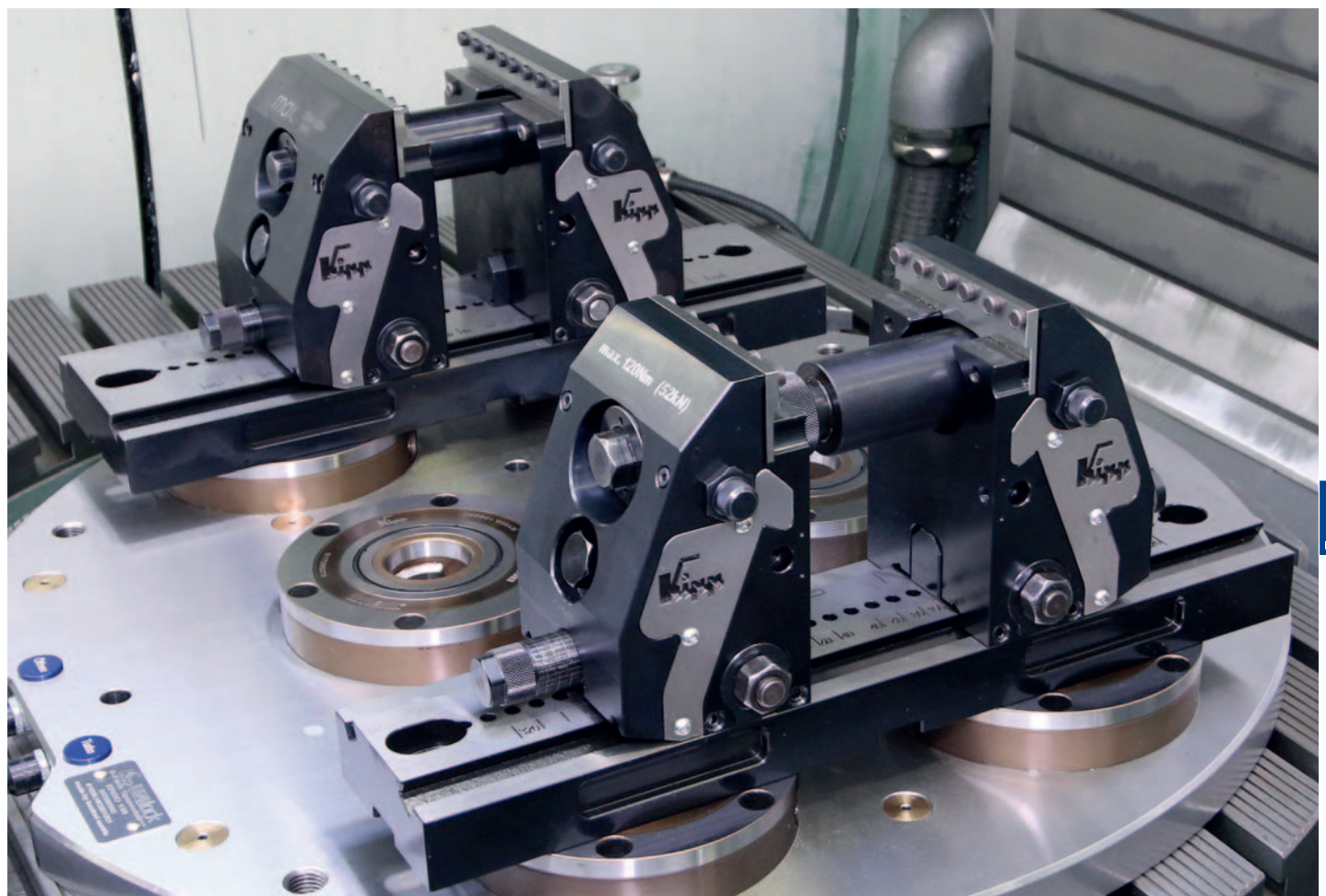
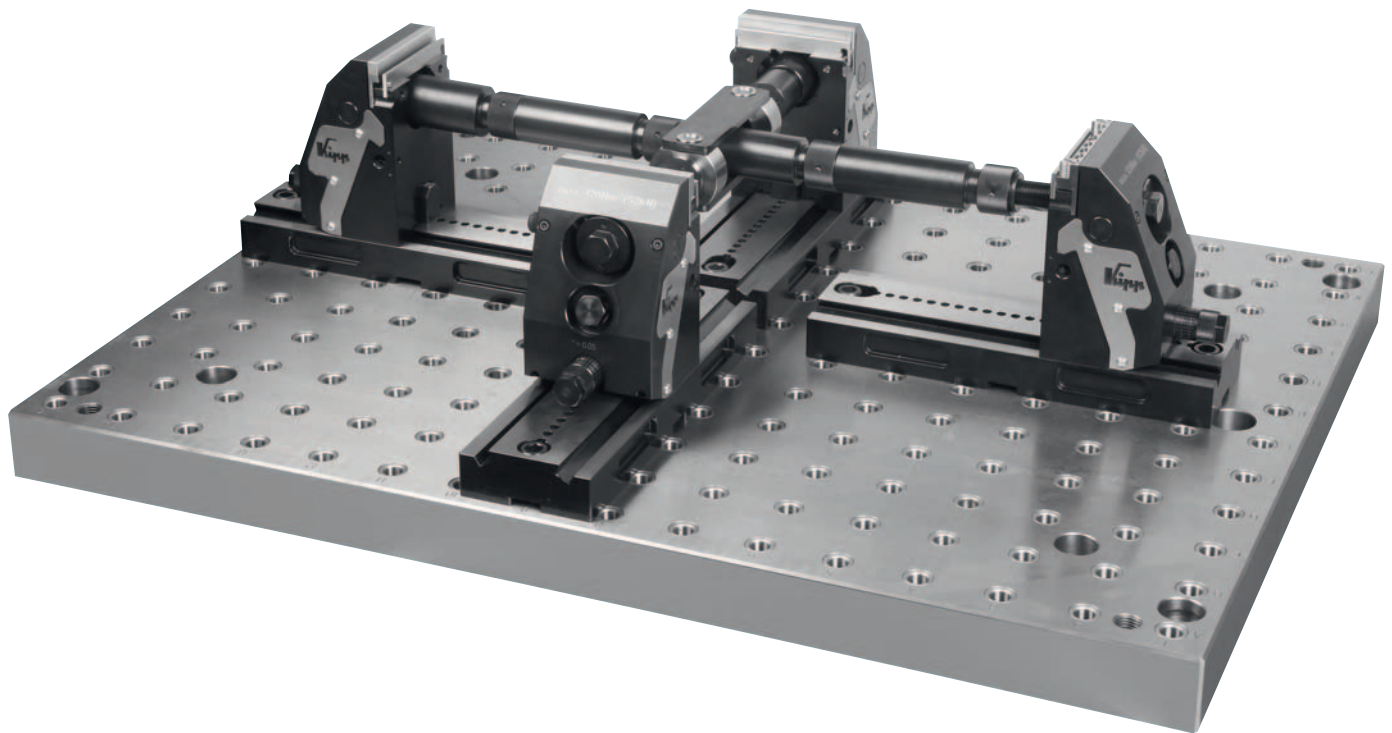
These vice jaws are for expanding the 5-axis clamping system compact. With these vice jaws large workpieces can be held on all four sides by cross clamping. Base plates, extension shafts and the coupling for cross-clamping are also needed for this set up.



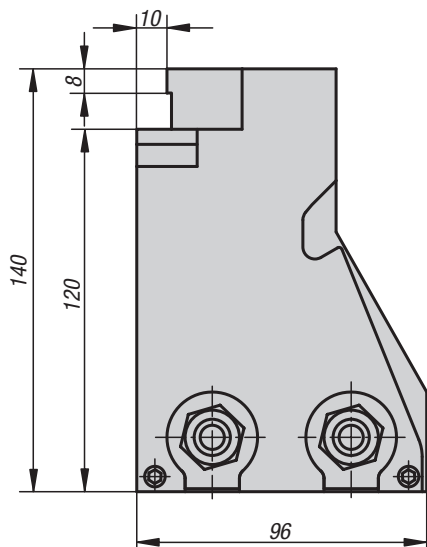
KIPP Vice jaws, complete

Order No.	Version	B	weight kg
K0976.09015010	right	90	5,18
K0976.09015020	left	90	5,4
K0976.12515010	right	125	7,42
K0976.12515020	left	125	7,42

Application example



Pendulum jaws

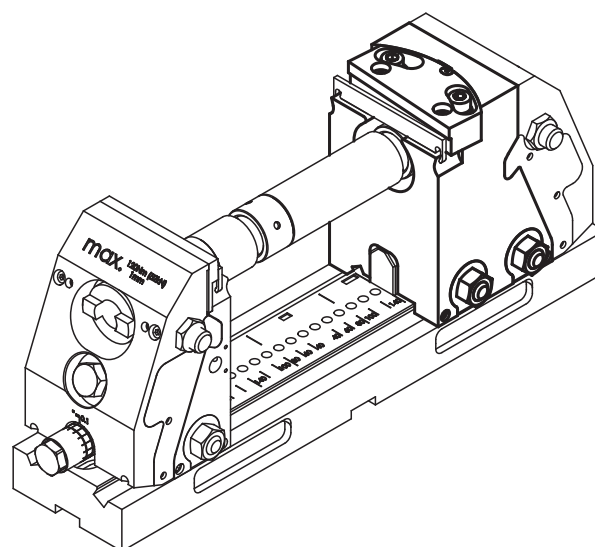
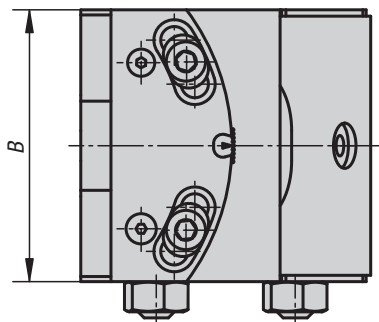


Material:
Body mild steel.
Jaw plates tool steel.

Version:
Body black oxidised.
Vice jaws hardened, bright.

Sample order:
K0988.09015010

Note:
Pendulum jaws are used to hold oblique workpieces.
The jaw plates of the pendulum jaws can be swivelled by $\pm 4^\circ$.
Pendulum jaws can also be used as fixed jaws.
Rigid design with 2 fastening screws.

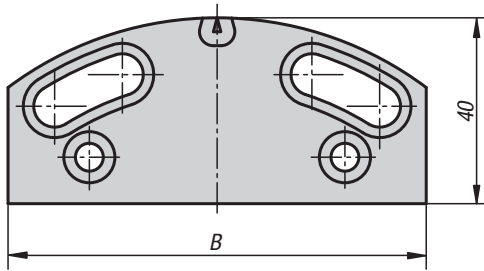
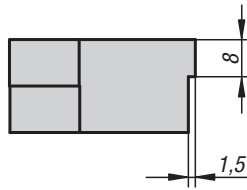


KIPP Pendulum jaws

Order No.	B	weight kg
K0988.09015010	90	6
K0988.12515010	125	8,77

Jaw plates smooth

for pendulum jaws



Material:
Tool steel.

Version:
Hardened, bright.

Sample order:
K1001.0900

Note:
For clamping pre-machined and ground workpieces.

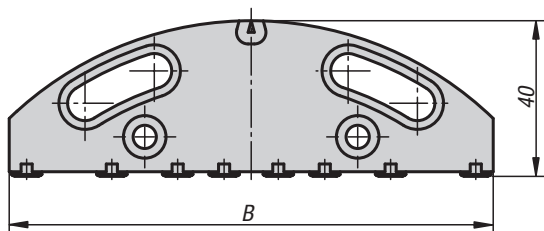
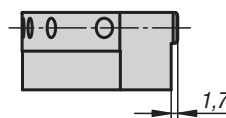
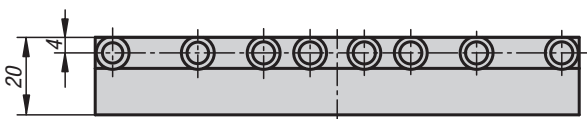
Supplied singly.

KIPP Jaw plates smooth for pendulum jaws

Order No.	B
K1001.0900	90
K1001.1250	125

Jaw plates with pins

for pendulum jaws



Material:
Tool steel.

Version:
Vice jaw hardened, bright.
Pins hardened, black oxidised.

Sample order:
K1001.0901

Note:
For positive clamping without preforming, e.g. rough pieces, heavy cutting, castings etc.

Supplied singly.

KIPP Jaw plates with pins for pendulum jaws

Order No.	B	No. of pins
K1001.0901	90	6
K1001.1251	125	8

Centre jaws

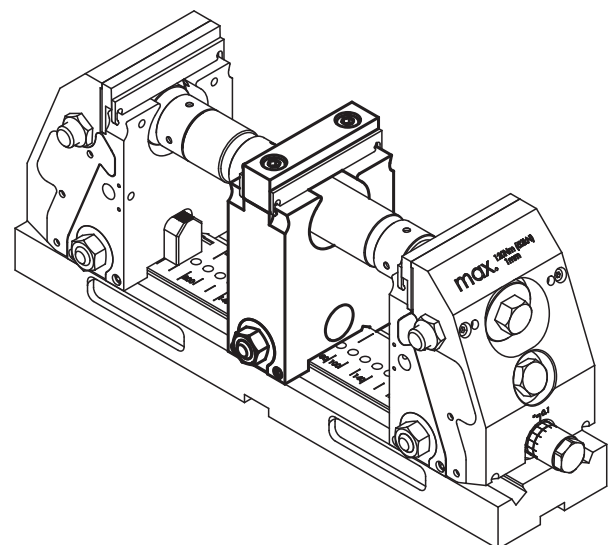
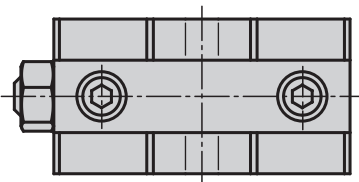
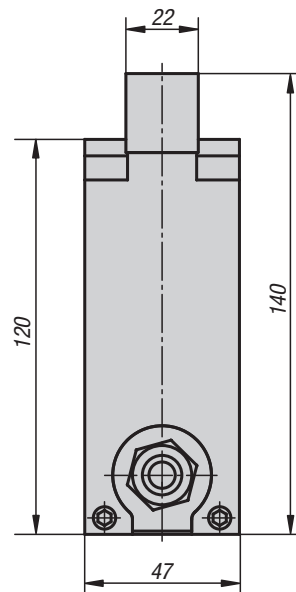
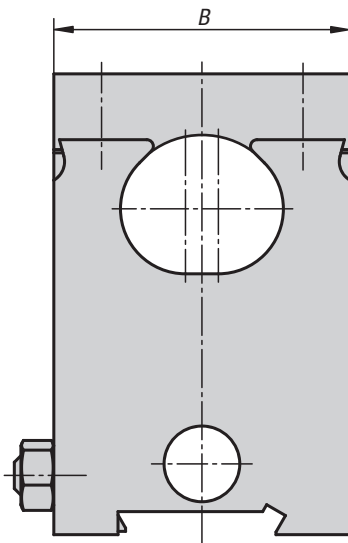


Material:
 Body mild steel.
 Jaw plates tool steel.

Version:
 Body black oxidised.
 Vice jaws hardened, bright.

Sample order:
 K0987.0901500

Note:
 Centre jaws are used to clamp 2 workpieces simultaneously.
 The centre jaws can be moved to suit the size of the workpiece. 2 different sized workpiece can be clamped.



KIPP Centre jaws

Order No.	B	weight kg
K0987.0901500	90	3,38
K0987.1251500	125	5,1

K1002

Jaw plates smooth

for centre jaws



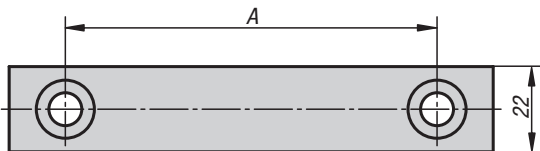
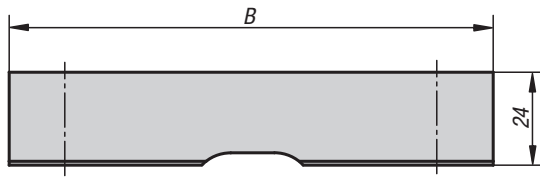
Material:
Tool steel.

Version:
Hardened, bright.

Sample order:
K1002.0900

Note:
For clamping pre-machined and ground workpieces.

Supplied singly.



KIPP Jaw plates smooth for centre jaws

Order No.	A	B
K1002.0900	61	90
K1002.1250	96	125

K1002

Jaw plates with pins

for centre jaws



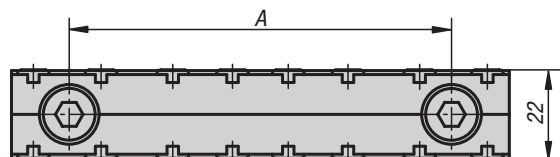
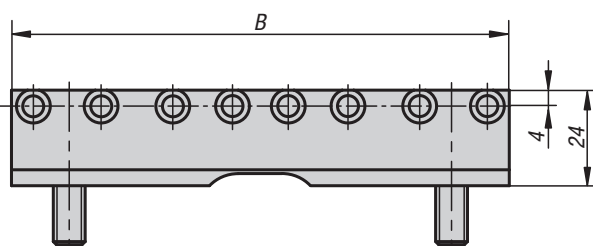
Material:
Tool steel.

Version:
Vice jaw hardened, bright.
Pins hardened, black oxidised.

Sample order:
K1002.0901

Note:
For positive clamping without preforming, e.g. rough pieces, heavy cutting, castings etc.

Supplied singly.



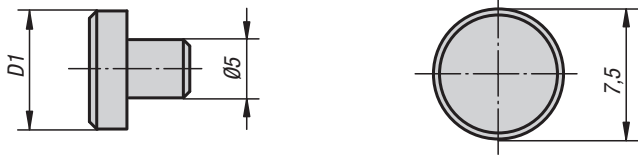
KIPP Jaw plates with pins for centre jaws

Order No.	A	B	No. of pins
K1002.0901	61	90	6
K1002.1251	96	125	8

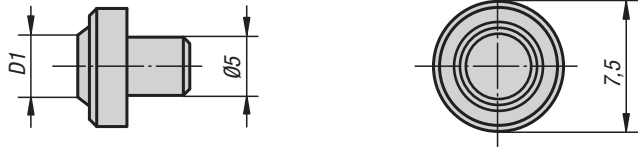
Jaw pins



flattened



cup point



Material, version:
Tool steel, hardened.

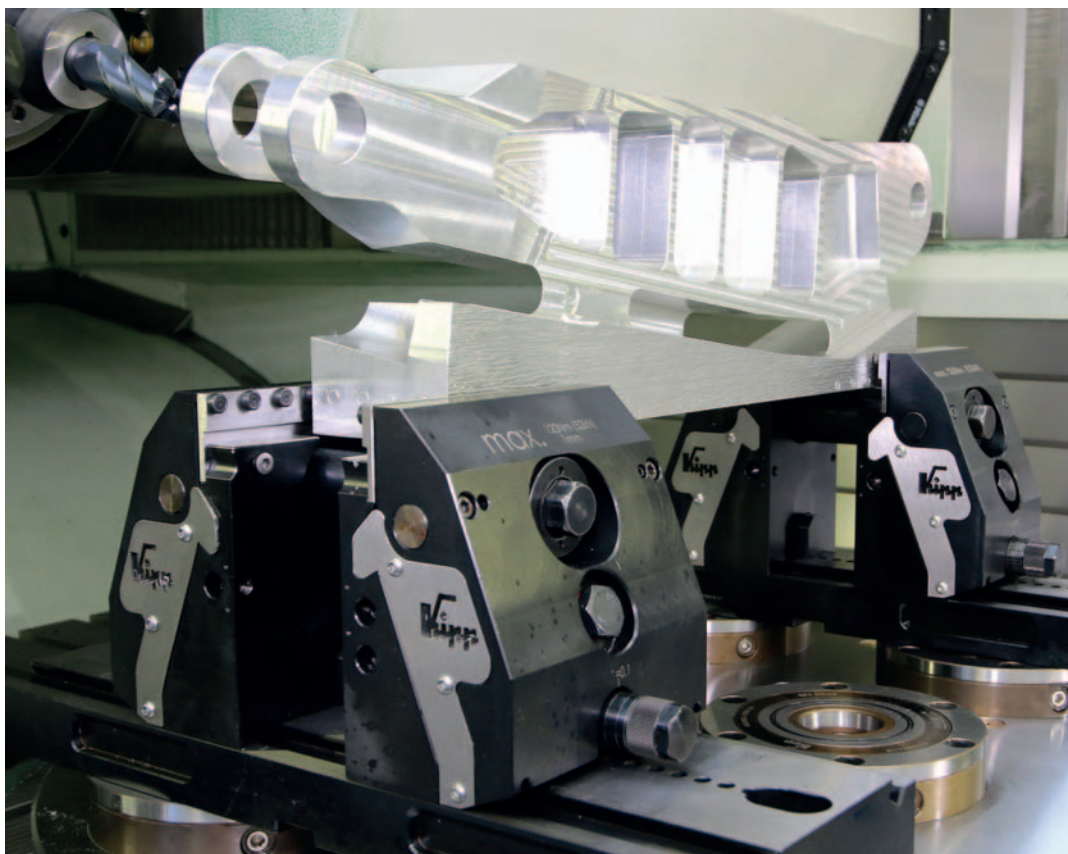
Sample order:
K0946.05600

Note:
Suitable for standard jaw plates and jaw adapters of round workpieces.
Installed by pressing in.

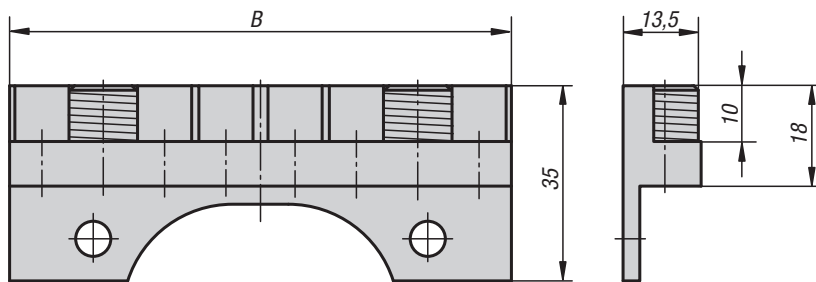
KIPP Jaw pins

Order No.	Version 1	D1	Application
K0946.05000	flattened	7,5	material over 1000 N/mm ² tensile strength
K0946.05400	cup point	4	material up to ca. 1000 N/mm ² tensile strength
K0946.05600	cup point	6	material up to ca. 1000 N/mm ² tensile strength

Application example



Cylinder clamping sets



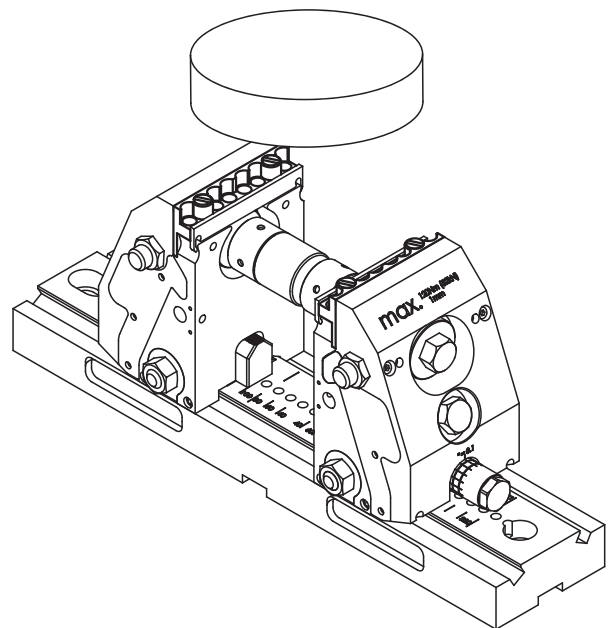
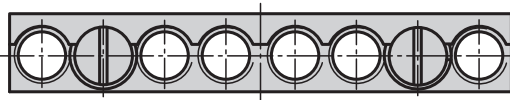
Material:
Tool steel.

Version:
Vice jaw hardened, bright.
Pins hardened, black oxidised.

Sample order:
K0989.09035

Note:
For holding round workpieces.
Max. clamping travel of jaw is 1 mm.

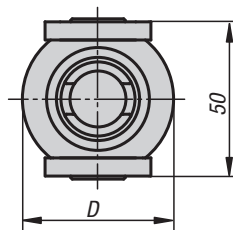
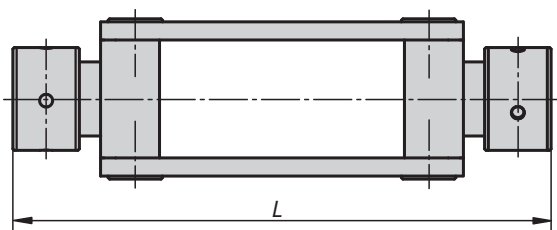
Supplied in pairs.



KIPP Cylinder clamping sets

Order No.	B	Clamping range min. - max.
K0989.09035	90	20 mm - 250 mm
K0989.12535	125	20 mm - 320 mm

Couplings for cross-clamping

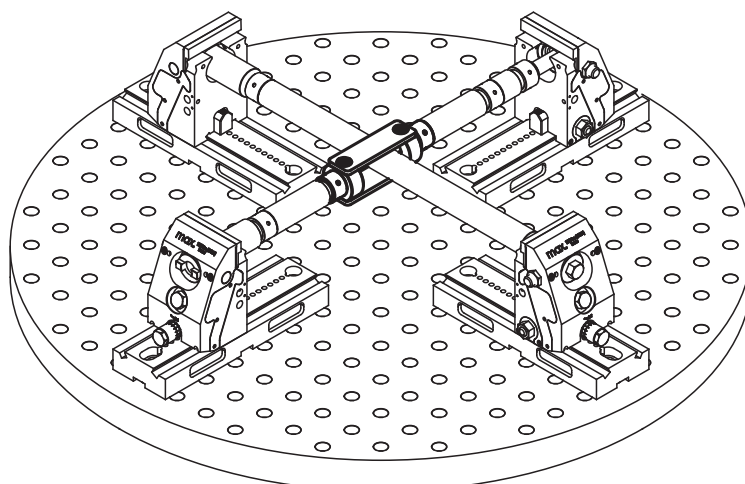


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0992.178

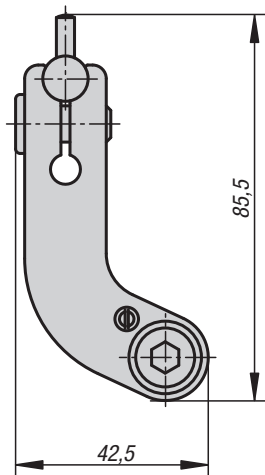
Note:
Two 5-axis clamping systems can be connected using a coupling for cross-clamping, allowing a workpiece to be held on four sides.



KIPP Couplings for cross-clamping

Order No.	D	L
K0992.178	50	178

Stop sets



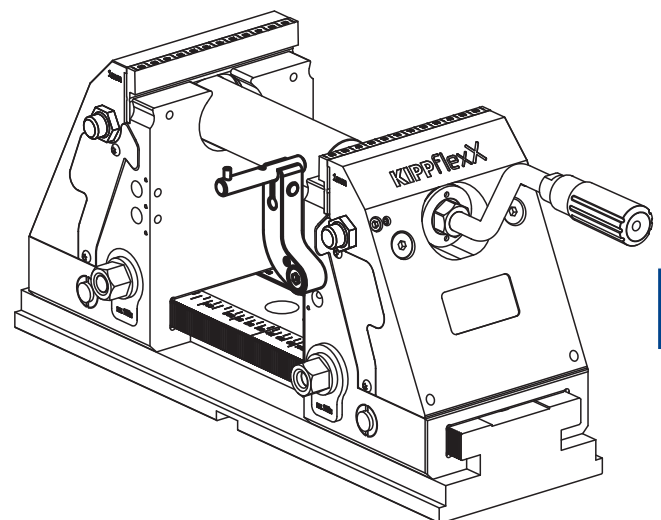
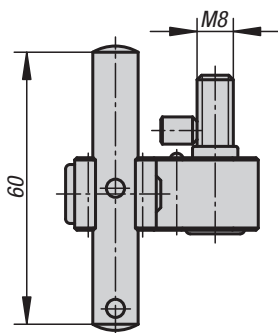
Material:
Steel.

Version:
Swivel arm, black oxidised.
Stop pin bright.

Sample order:
K0993.150

Note:
Stop set for direct fastening to jaws. The stop can be swivelled aside for machining the workpiece without losing the stop dimension.

Supplied complete with attachment parts.



KIPP Stop sets

Order No.

Suitable for

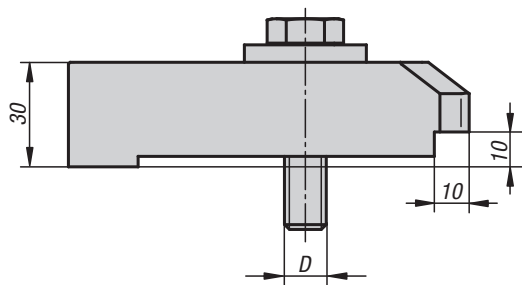
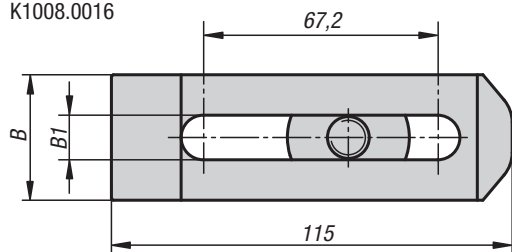
K0993.150

5-axis vice

Clamping claw sets



K1008.0012
K1008.0016



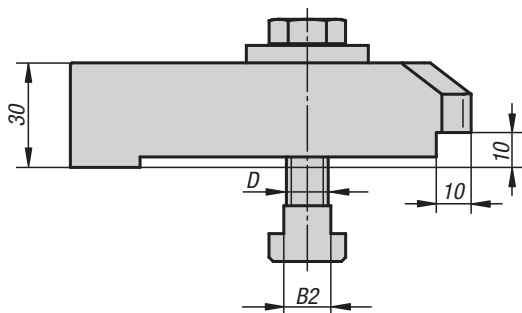
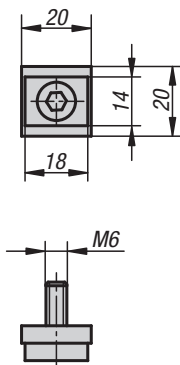
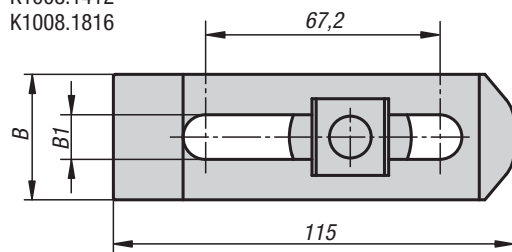
Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K1008.0012

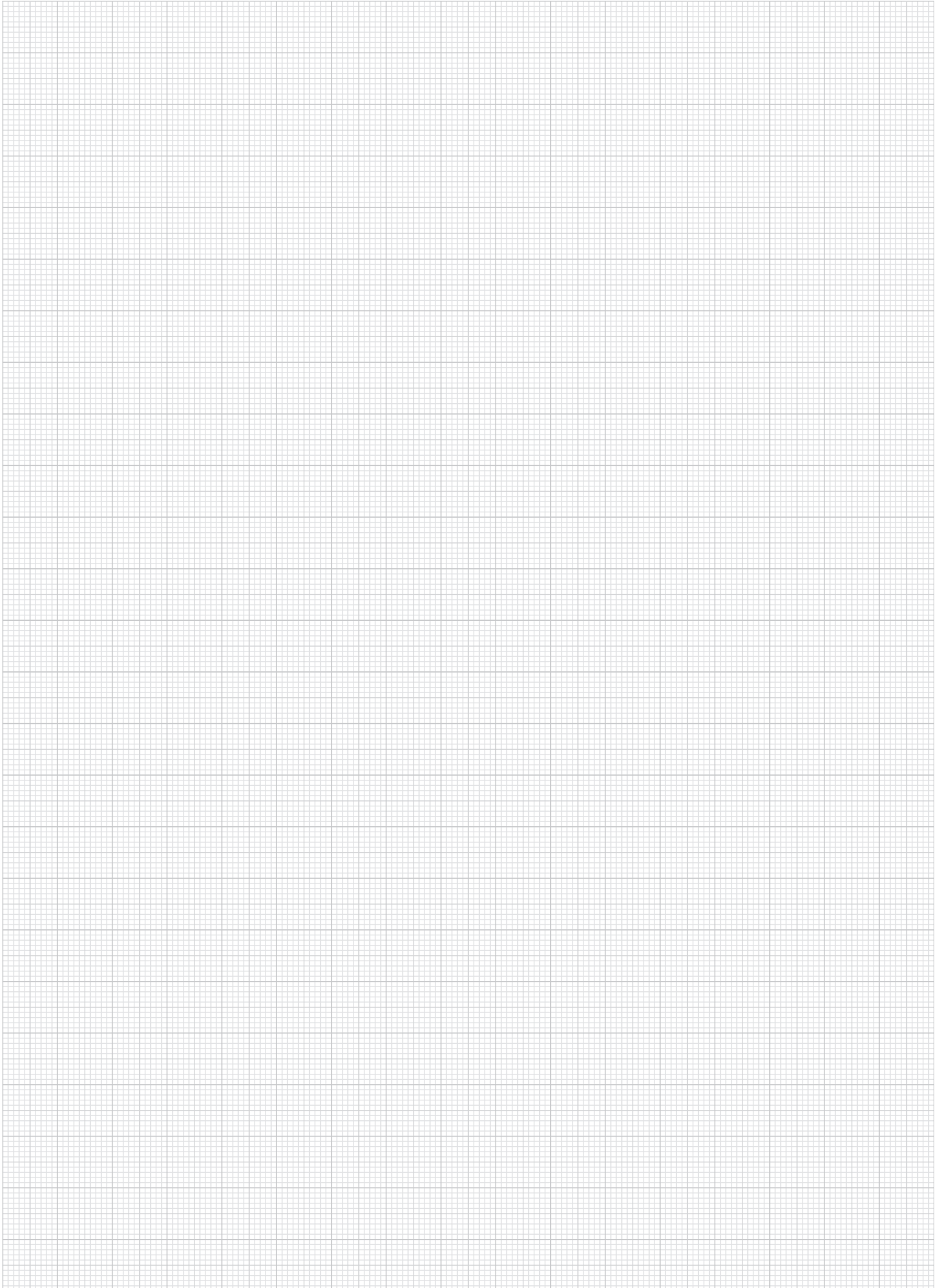
Note:
Clamping claw set for compact 5-axis clamping system/ KIPPflexX.
All common T-slots, grid and fastening hole spacings can be covered.

K1008.1412
K1008.1816

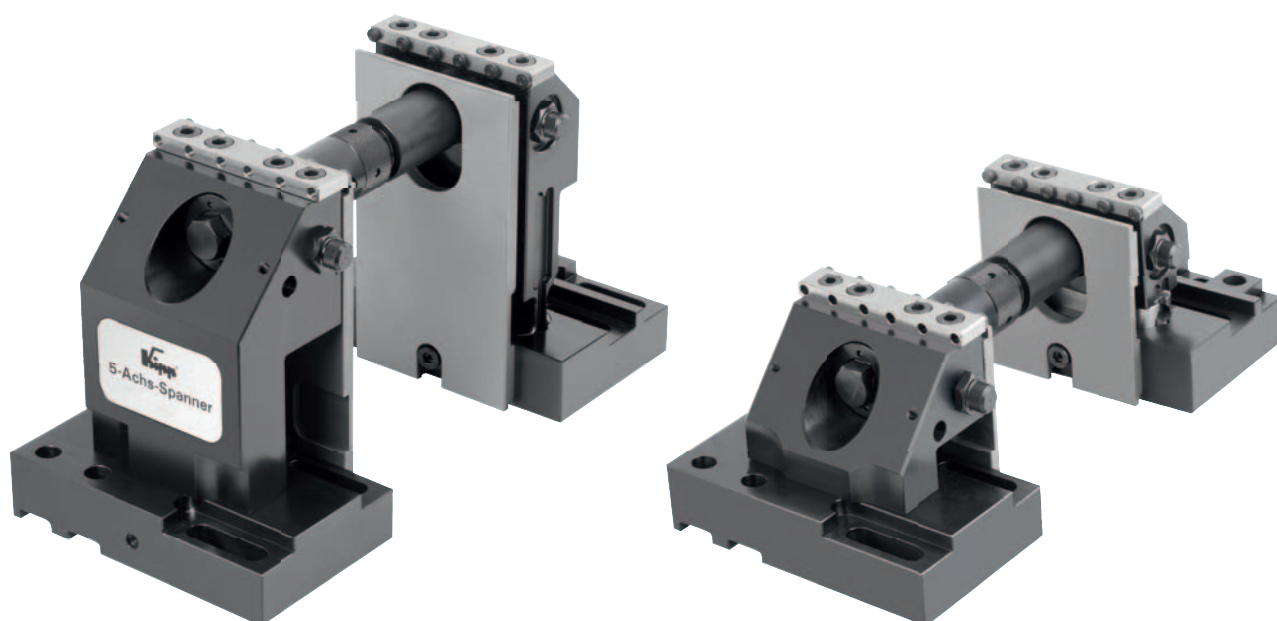


KIPP Clamping claw sets

Order No.	B	B1	B2	D
K1008.0012	36	12,8	-	M12
K1008.0016	40	16,8	-	M16
K1008.1412	36	12,8	13,5	M12
K1008.1816	40	16,8	17,5	M16



3-axis clamping system
5-axis clamping system



5 Axis clamping system



Trend-setting clamping concept for 5-sided machining

The 5-axis clamping system complements modern milling centres to produce an unbeatable overall concept.

Many products are becoming more complicated than ever, and also have to be produced in an extremely short time and with maximum precision. To satisfy these criteria workpieces must more often be completely machined in one set-up. Modern manufacturing technology adopted by machine tool manufacturers is the development of 5-axis machining. Complete machining of workpieces on 5-axis centres transfers the entire high precision to the workpiece.

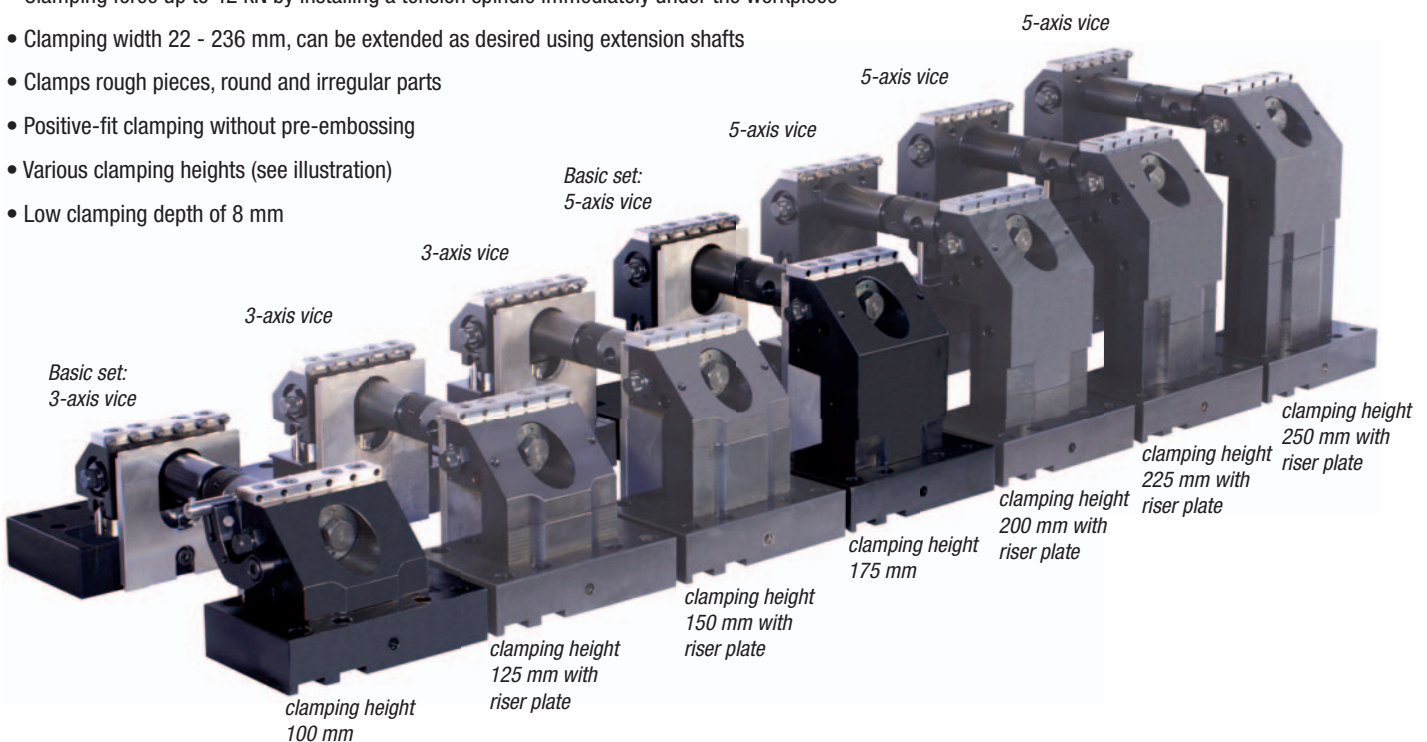
Due the greater configuration options for workpieces provided by 5-axis machining, a high-performance clamping system is an essential precondition for the efficient use of these machines. Among other things, an optimised clamping system helps guarantee that the machine's complex travel can produce a high-precision workpiece.

The 5-axis clamping systems allow machining free of interfering edges and vibration, with extremely high cutting and feed forces. They enable the application of extremely short tools in order to guarantee the required tolerances and surfaces.



5 and 3 axis vices for trouble-free 5-sided machining with a single setup

- Can be set up on grid hole plates, on T-slot plates and on your own fixtures
- Clamping force up to 42 kN by installing a tension spindle immediately under the workpiece
- Clamping width 22 - 236 mm, can be extended as desired using extension shafts
- Clamps rough pieces, round and irregular parts
- Positive-fit clamping without pre-embossing
- Various clamping heights (see illustration)
- Low clamping depth of 8 mm



5 Axis clamping system



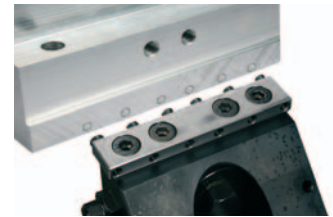
Special technical features - clamping process



before clamping

The clamping process involves the penetration of hardened, exchangeable clamping pins into the workpiece. This guarantees positive-fit clamping without pre-embossing. Optionally, flattened clamping pins are available for clamping workpieces with sensitive surfaces. Additional flexible applications are possible using accessories, including clamping jaws for specific clamping tasks and round clamping elements for clamping round parts.

The 5 axis clamping systems provides you with a universal clamping element that is able to clamp workpieces with a clamping width of 22 - 236 mm. The clamping width can be extended as desired through the use of extension shafts.

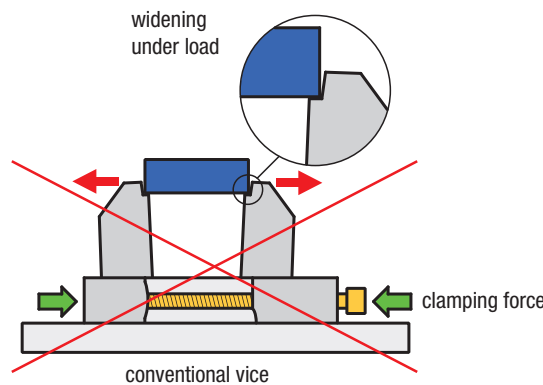


after clamping

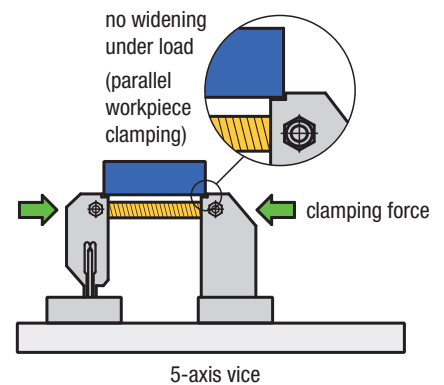
High clamping forces up to 42 kN that are not lost due to flexing

By installing a tension spindle directly under the workpiece support the clamping force is generated where it is required.

- no widening the jaws under load
- no distortion of the machine table
- extreme rigidity allows highest cutting forces



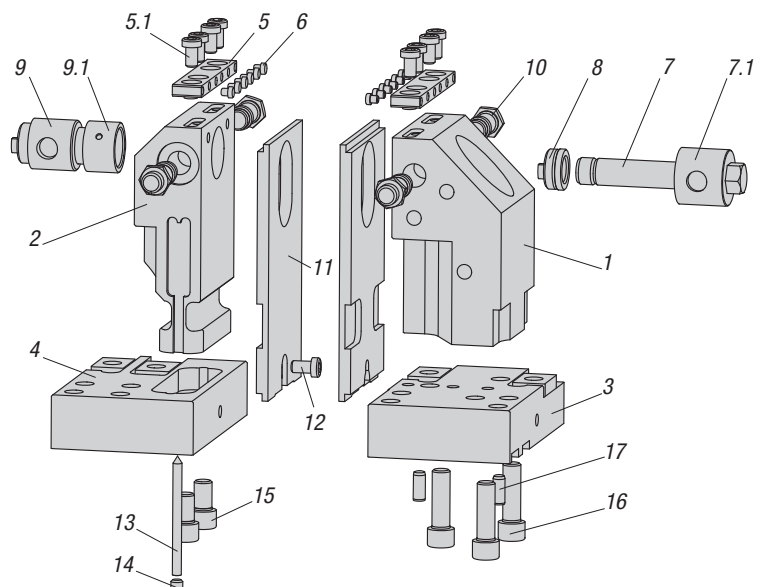
conventional vice



5-axis vice

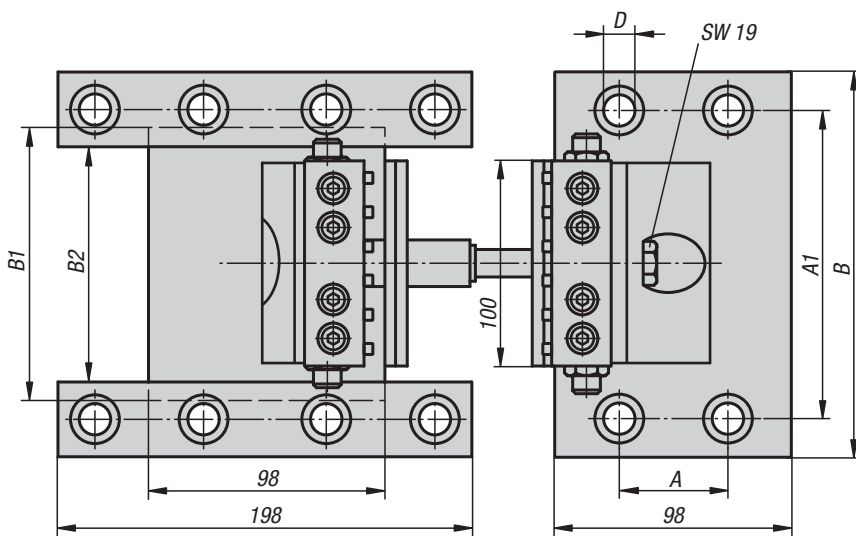
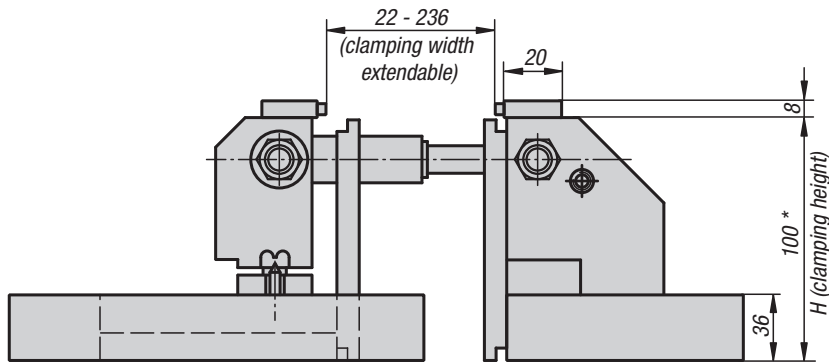
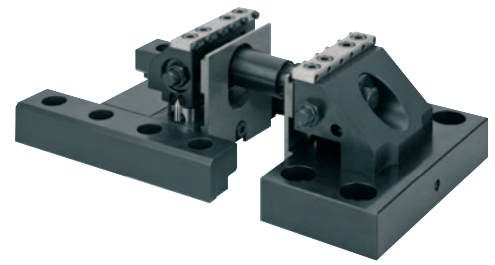
5-axis vice - system design

pos.	description	pcs.
1	fixed jaws	1
2	moveable jaws	1
3	base plate for fixed jaws	1
4	base plate for movable jaws	1
5	standard jaw pads with cap screws (5.1)	2
6	clamping pin	12
7	threaded spindle (7) with tension housing (7.1)	1
8	spindle nut	1
9	extension shaft (9) with union nut (9.1)	1
10	fastening screw	4
11	seating ledge	2
12	DIN 6912 M8x12 cap screw	2
13	pointer	1
14	DIN 913 M8x8 grub screw	1
15	DIN 912 M12x20 cap screw	2
16	DIN 912 M12x40 cap screw	3
17	DIN 7979 8x20 dowel pin	2



3-axis clamping system

for grid plates



Material:

Base plates and jaws low-carbon steel.
Seating ledges steel.
Jaw plates special steel.
Clamping pins tool steel.

Version:

Base plates and jaws black oxidised.
Seating ledges hardened, bright.
Jaw plates bright.
Clamping pins hardened, bright.

Sample order:

K0939.4012100

Note:

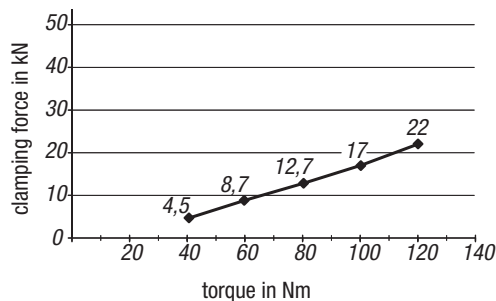
3-axis vices for mounting on grid plates.
These vices enable 3-sided machining free of interfering edges with a clamping depth of only 8 mm. With this clamping system, clamping widths of 22 - 236 mm are possible, and can be extended as desired using the optionally available K0947 extension shafts.
By installing a tension spindle immediately under the workpiece support, a force of up to 22 kN is applied to the workpiece; this is not lost due to flexing. The use of clamping pins with a 4 mm cup point allows positive-fit clamping without pre-embossing.
The shoulder screws K0815 are recommended for mounting the vices on grid hole plates.
The set includes one extension shaft with L = 60 mm and one with L = 120 mm.

* The clamping height can be extended with the riser plates K0941 and seating ledges K0942.

Accessories:

Stop set K0948
Shoulder screws K0815

clamping force 3 axis clamping system

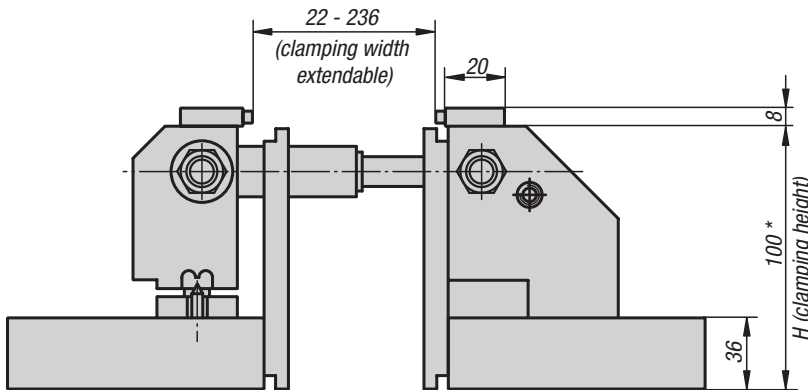
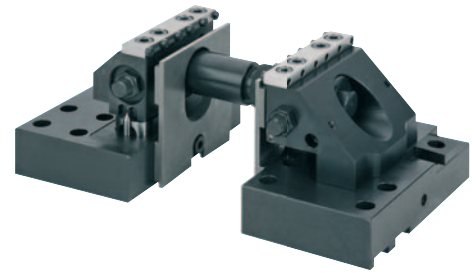


KIPP 3 Axis clamping system for grid plates

Order No.	Grid spacing	A	A1	B	B1	B2	D	H	Clamping force max. kN	weight kg
K0939.4012100	40x40 (M12)	40	160	190	148	124	12	100 *	22	18,88
K0939.5012100	50x50 (M12)	50	150	190	138	114	12	100 *	22	19,445
K0939.5016100	50x50 (M16)	50	150	190	134	110	16	100 *	22	18,74

3-axis clamping system

for T-slots



Material:

Base plates and jaws low-carbon steel.
Seating ledges steel.
Jaw plates special steel.
Clamping pins tool steel.

Version:

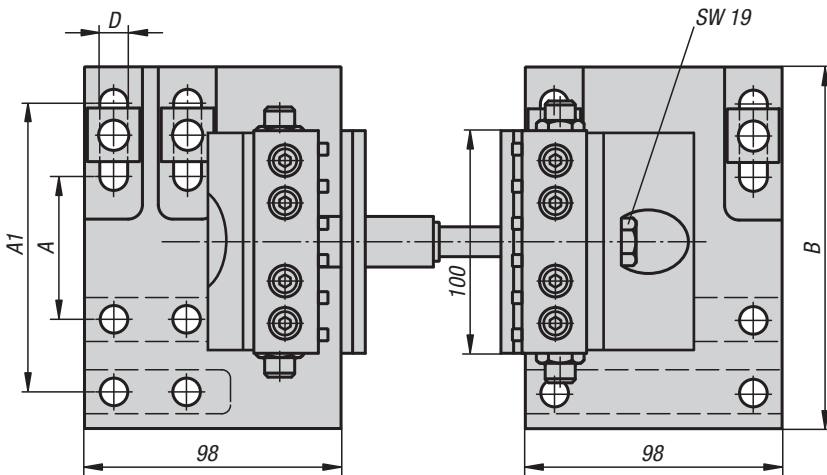
Base plates and jaws black oxidised.
Seating ledges hardened, bright.
Jaw plates bright.
Clamping pins hardened, bright.

Sample order:

K0940.063100

Note:

3-axis vices for mounting on machine tables with T-slots. These vices enable 3-sided machining free of interfering edges with a clamping depth of only 8 mm. With this clamping system, clamping widths of 22 - 236 mm are possible, and can be extended as desired using the optionally available K0947 extension shafts. By installing a tension spindle immediately under the workpiece support, a force of up to 22 kN is applied to the workpiece, this is not lost due to flexing. The use of clamping pins with a 4 mm cup point allows positive-fit clamping without pre-embossing. The fastening set K0951 is recommended for mounting the vices on T-slot tables. The set includes one extension shaft with L = 60 mm and one with L = 120 mm.

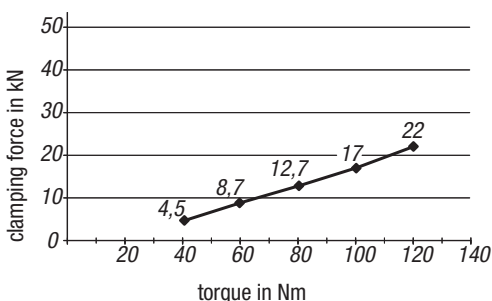


* The clamping height can be extended with the riser plates K0941 and seating ledges K0942.

Accessories:

Stop set K0948
Fastening set K0951

clamping force 3 axis clamping system

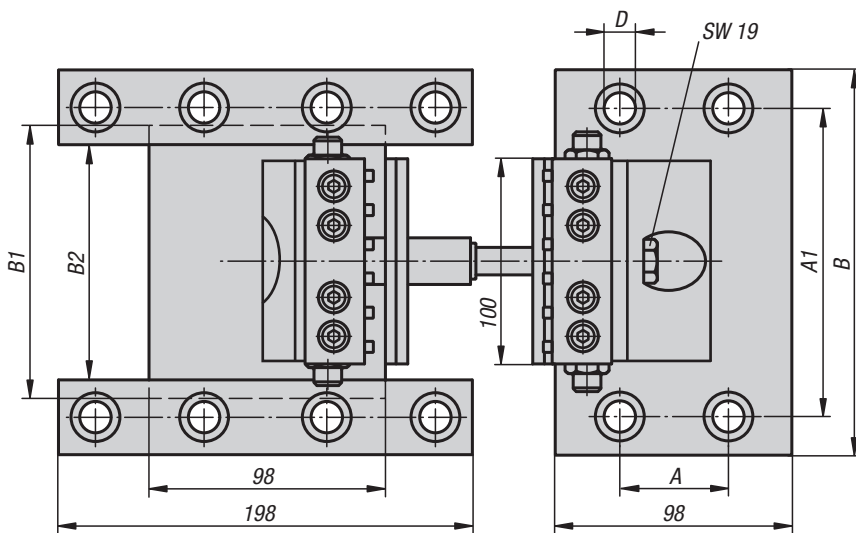
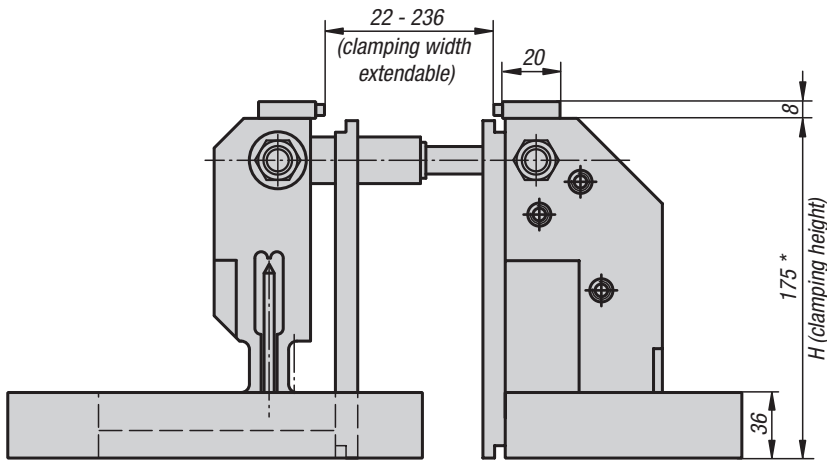
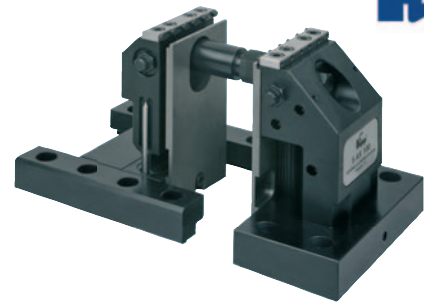


KIPP 3 Axis clamping system for T-slots

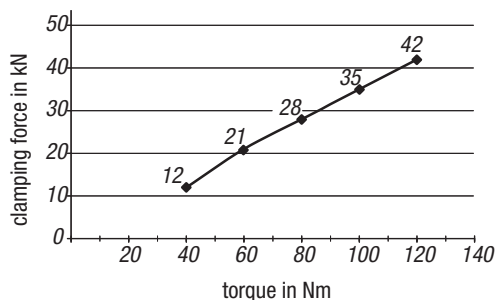
Order No.	Suitable for	A	A1	B	D	H	Clamping force max. kN	weight kg
K0940.063100	slot spacing 63 - 126	63	126	158	12,5	100 *	22	14,8

5-axis clamping system

for grid plates



clamping force 5 axis clamping system



Material:

Base plates and jaws low-carbon steel.
Seating ledges steel.
Jaw plates special steel.
Clamping pins tool steel.

Version:

Base plates and jaws black oxidised.
Seating ledges hardened, bright.
Jaw plates bright.
Clamping pins hardened, bright.

Sample order:

K0939.4012175

Note:

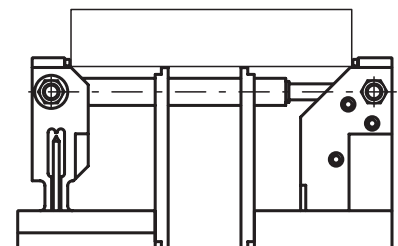
5-axis vices for mounting on grid plates. These vices enable 5-sided machining free of interfering edges with a clamping depth of only 8 mm. With this clamping system, clamping widths of 22 - 236 mm are possible, and can be extended as desired using the optionally available K0947 extension shafts.

By installing a tension spindle immediately under the workpiece support, a force of up to 42 kN is applied to the workpiece; this is not lost due to bending. The use of clamping pins with a 4 mm cup point allows positive-fit clamping without pre-embossing. The shoulder screws K0815 are recommended for mounting the vices on grid hole plates. The set includes one extension shaft with L = 60 mm and one with L = 120 mm.

* The clamping height can be extended with the riser plates K0941 and seating ledges K0942.

Accessories:

Stop set K0948
Locating bolts K0815

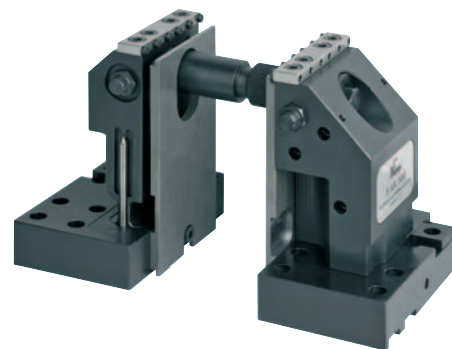
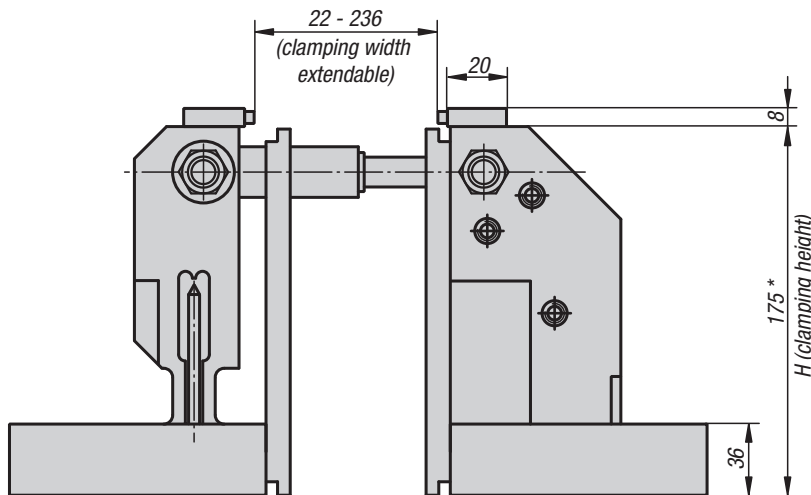


KIPP 5 Axis clamping system for grid plates

Order No.	Grid spacing	A	A1	B	B1	B2	D	H	Clamping force max. kN	weight kg
K0939.4012175	40x40 (M12)	40	160	190	148	124	12	175 *	42	25,095
K0939.5012175	50x50 (M12)	50	150	190	138	114	12	175 *	42	25,232
K0939.5016175	50x50 (M16)	50	150	190	134	110	16	175 *	42	25

5-axis clamping system

for T-slots



Material:

Base plates and jaws low-carbon steel.
Seating ledges steel.
Jaw plates special steel.
Clamping pins tool steel.

Version:

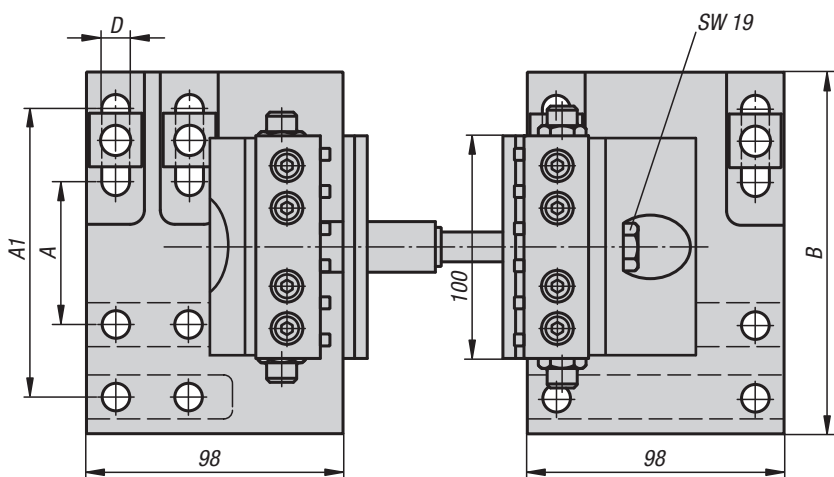
Base plates and jaws black oxidised.
Seating ledges hardened, bright.
Jaw plates bright.
Clamping pins hardened, bright.

Sample order:

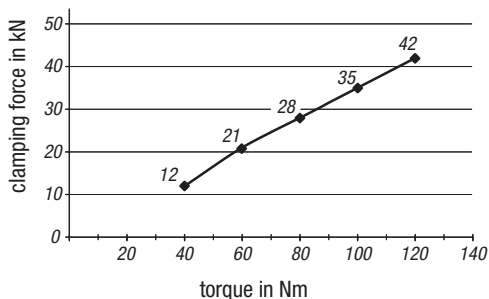
K0940.063175

Note:

5-axis vices for mounting on machine tables with T-slots. These vices enable 5-sided machining free of interfering edges with a clamping depth of only 8 mm. With this clamping system, clamping widths of 22–236 mm are possible, and can be extended as desired using the optionally available K0947 extension shafts. By installing a tension spindle immediately under the workpiece support, a force of up to 42 kN is applied to the workpiece, this is not lost due to flexing. The use of clamping pins with a 4 mm cup point allows positive-fit clamping without pre-embossing. The fastening set K0951 is recommended for mounting the vices on T-slot tables. The set includes one extension shaft with L = 60 mm and one with L = 120 mm.



clamping force 5 axis clamping system



* The clamping height can be extended with the riser plates K0941 and seating ledges K0942.

Accessories:

Stop set K0948
Fastening set K0951

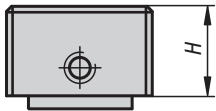
KIPP 5 Axis clamping system for T-slots

Order No.	Suitable for	A	A1	B	D	H	Clamping force max. kN	weight kg
K0940.063175	slot spacing 63 - 126	63	126	158	12,5	175 *	42	21,32

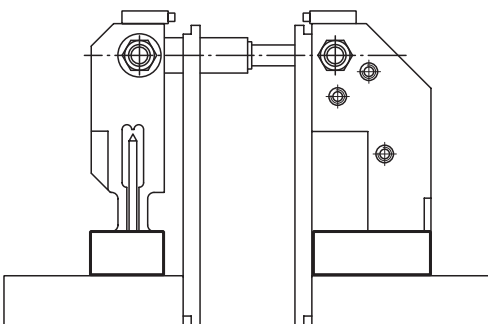
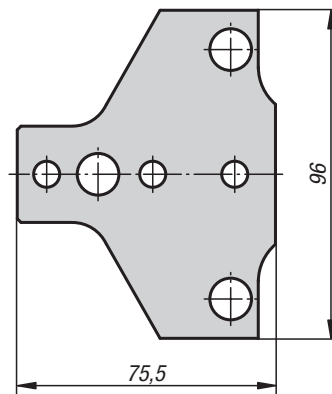
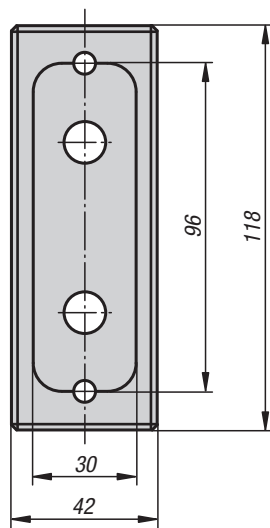
Riser plates



risers for
moveable side



risers for
fixed side

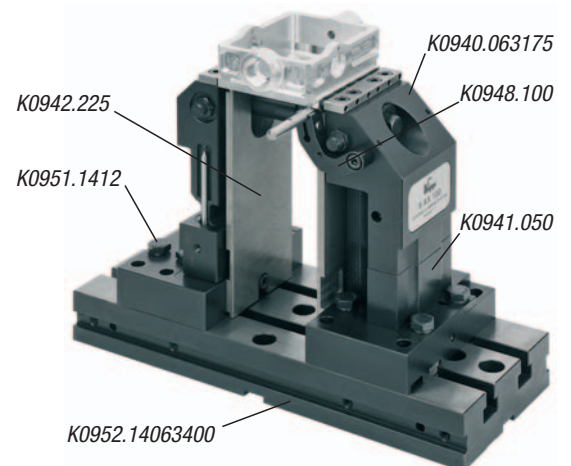


Material, version:
Steel, black oxidised.

Sample order:
K0941.025
(supplied in pairs)

Note:
The riser plates are mounted between the base plate and the jaw body, raising the 3-axis vices to 125 or 150 mm. The 5-axis vices can be raised to 200, 225 or 250 mm. When using the riser plates the matching seating ledges K0942 must also be installed.

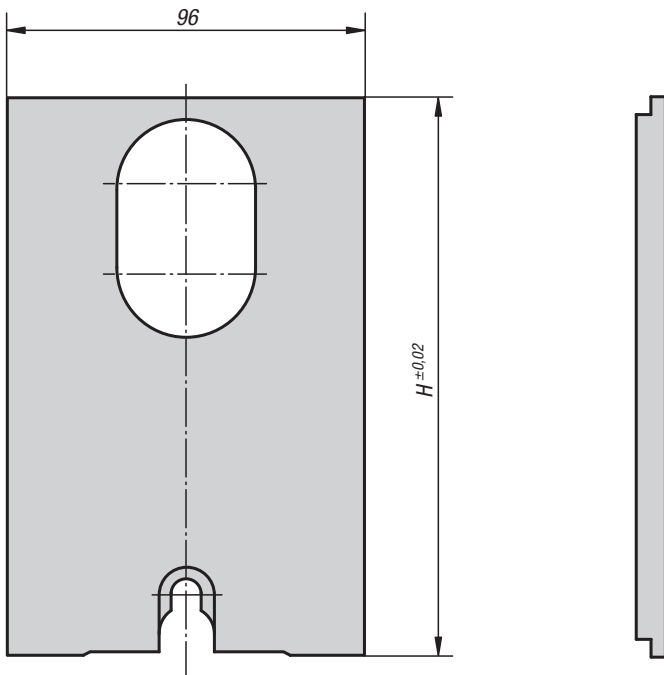
Supplied with fastening screws and cylindrical pins.



KIPP Riser plates

Order No.	H	weight kg
K0941.025	25	1,945
K0941.050	50	3,68
K0941.075	75 (25 + 50)	5,271

Seating ledges

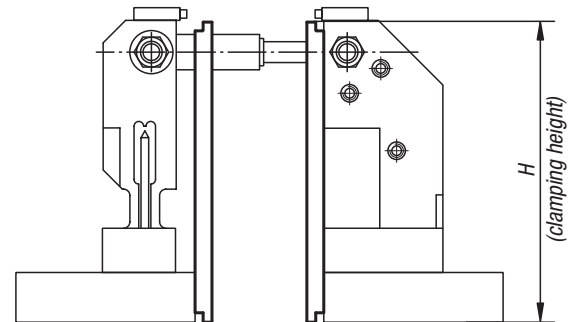


Material, version:
Steel hardened, bright.

Sample order:
K0942.100
(supplied in pairs)

Note:
If the riser plates K0941 are used to raise the height, the seating ledges must be changed to suit.

*Including 12 jaw pins K0946.05600.



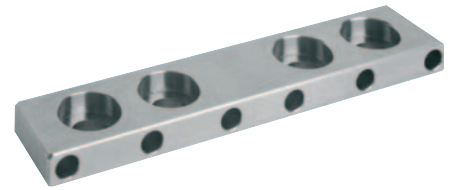
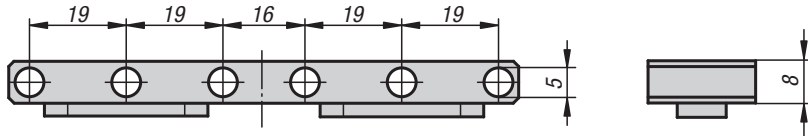
KIPP Seating ledges

Order No.	H	Suitable for
K0942.100	100	3-axis vice basic set
K0942.105*	105	3-axis vice basic set
K0942.125	125	3-axis vice with 25 mm riser plate
K0942.150	150	3-axis vice with 50 mm riser plate
K0942.175	175	5-axis vice basic set
K0942.180*	180	5-axis vice basic set
K0942.200	200	5-axis vice with 25 mm riser plate
K0942.225	225	5-axis vice with 50 mm riser plate
K0942.250	250	5-axis vice with 75 mm riser plate (25 + 50)



K0943

Jaw plates standard

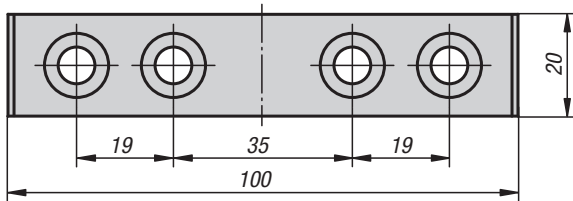


Material, version:
Special steel, bright.

Sample order:
K0943.110008

Note:
Jaw plates with holes to press the jaw pins into.
Suitable for all 3-axis and 5-axis vices.

Accessories:
Jaw pins K0946

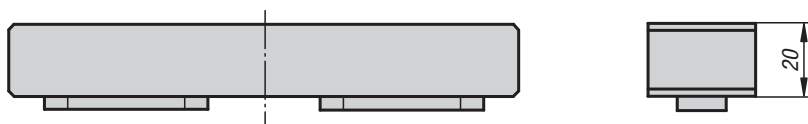


KIPP Jaw plates, standard

Order No.	Suitable for
K0943.110008	all 3-axis and 5-axis vices

K0944

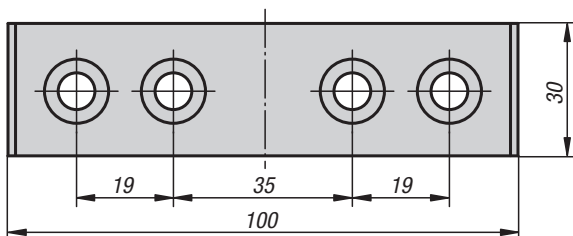
Jaw plates machinable



Material, version:
Steel 1.0503, bright.

Sample order:
K0944.210020

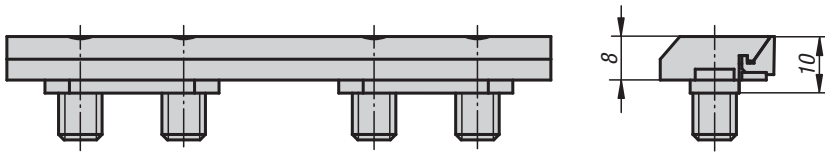
Note:
Machinable jaw plates can be machined to suit specific workpieces. Suitable for all 3-axis and 5-axis vices.



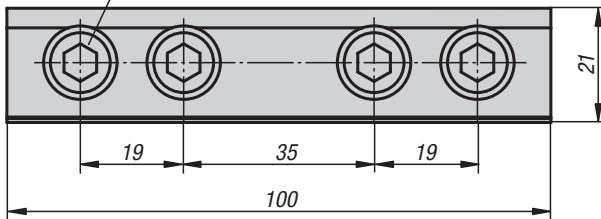
KIPP Jaw plates, machinable

Order No.	Suitable for
K0944.210020	all 3-axis and 5-axis vices

Draw-down jaws



DIN 6912 M8x14 10.9 cap screw



Material, version:
Special steel, bright.

Sample order:
K0953.110008

Note:
Positive down jaw plates for clamping pre-machined workpieces.
Suitable for all 3-axis and 5-axis vices.

Supplied in pairs.

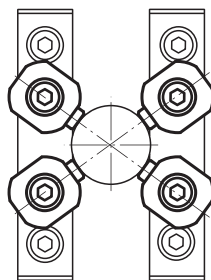
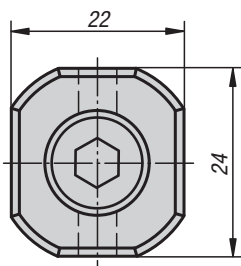
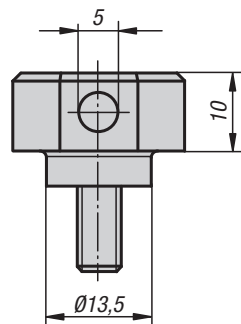
KIPP Draw-down jaws

Order No.	Suitable for
K0953.110008	all 3-axis and 5-axis vices

K0945

Jaw adapters

for round workpieces



Material, version:
Adapter blocks carbon steel, black oxidised.
Cap screw, grade 10.9.

Sample order:
K0945.135010
(supplied in sets of 4)

Note:
For clamping round workpieces with a diameter of 30–200 mm. Screwed directly into the standard or machinable jaw plates.

Accessories:
Jaw pins K0946

KIPP Jaw adapters for round workpieces

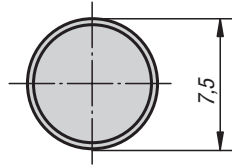
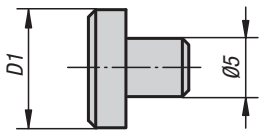
Order No.	Suitable for
K0945.135010	all 3-axis and 5-axis vices



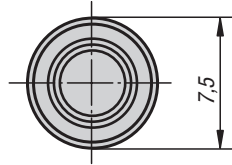
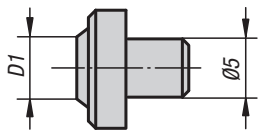
Jaw pins



flattened



cup point



Material, version:
Tool steel, hardened.

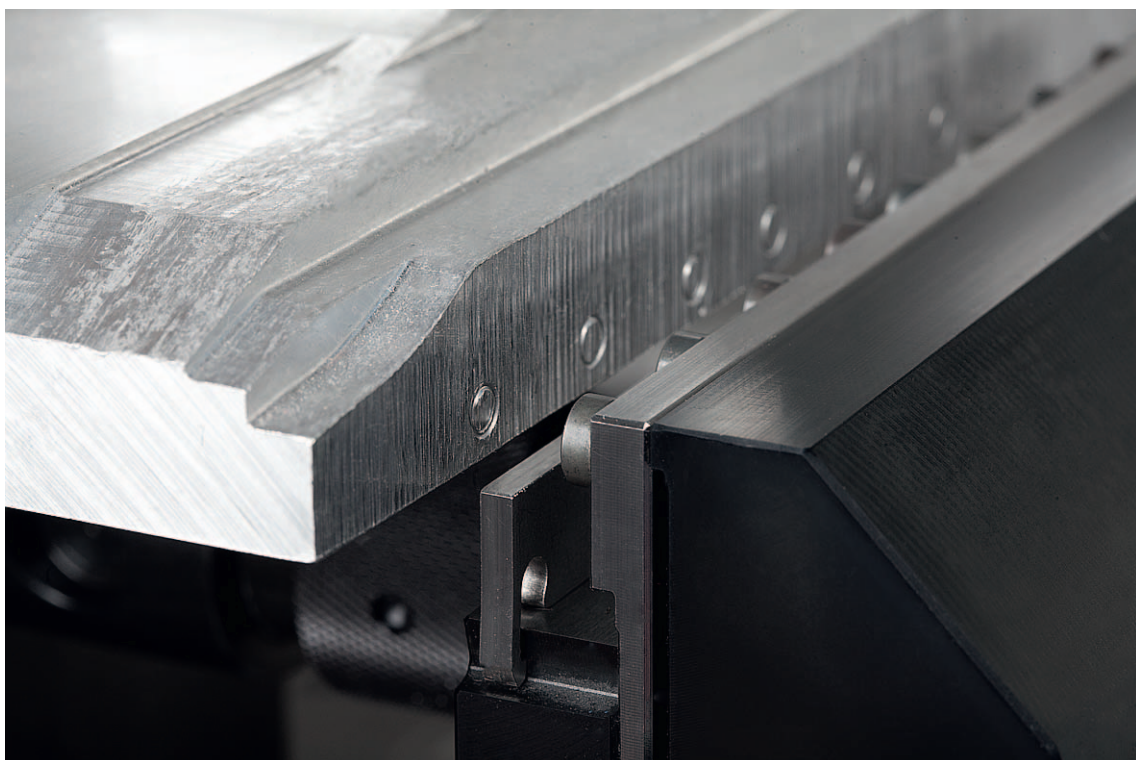
Sample order:
K0946.05600

Note:
Suitable for standard jaw plates and jaw adapters of round workpieces.
Installed by pressing in.

KIPP Jaw pins

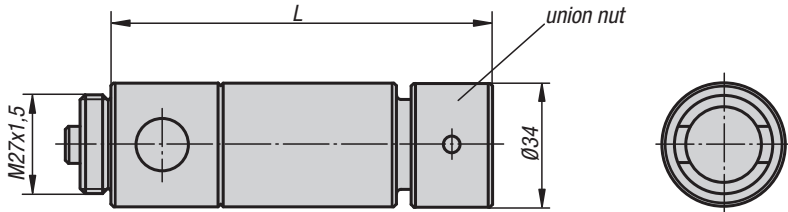
Order No.	Version 1	D1	Application
K0946.05000	flattened	7,5	material over 1000 N/mm ² tensile strength
K0946.05400	cup point	4	material up to ca. 1000 N/mm ² tensile strength
K0946.05600	cup point	6	material up to ca. 1000 N/mm ² tensile strength

Application example



Extension shafts

with union nut



Material, version:

Carbon steel, black oxidised.

Sample order:

K0947.060

Note:

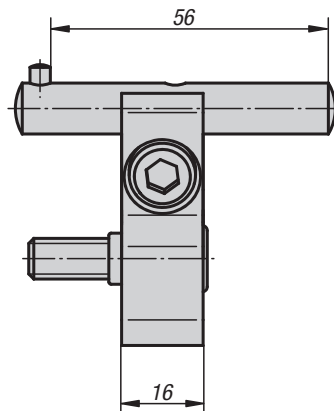
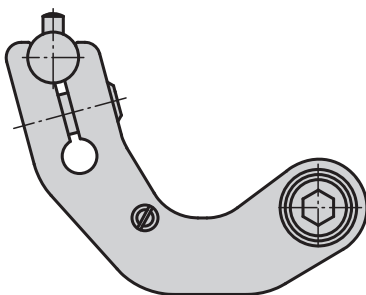
To extend the clamping width.
Supplied with union nut. The extension shafts can be combined as desired.

KIPP Extension shafts with union nut

Order No.	L	Clamp range
K0947.060	60	22-82
K0947.120	120	82-142
K0947.240	240	extension by 240 mm
K0947.480	480	extension by 480 mm

K0948

Stop set



Material:

Steel.

Version:

Swivel arm, black oxidised.
Stop pin bright.

Sample order:

K0948.100

Note:

Stop set for direct fastening to fixed jaws. The stop can be swivelled aside for machining of the workpiece without losing the stop dimension. Supplied complete with attaching parts.

KIPP Stop set

Order No.	Suitable for
K0948.100	all 3-axis and 5-axis vices



Shoulder screws

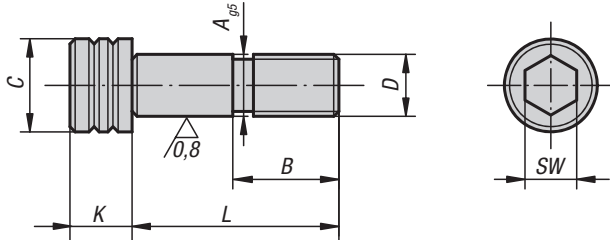
Form B



Material:
Carbon steel.

Version:
Tempered, black oxidised.
Precision diameters ground.

Sample order:
K0815.12055



KIPP Shoulder screws Form B

Order No.	Form	A	B	C	D	K	L	SW	Tightening torque max. Nm
K0815.12055	B	12	22	18	M12	12	55	10	88
K0815.16055	B	16	25	24	M16	16	55	14	216

K0951

Fastening set

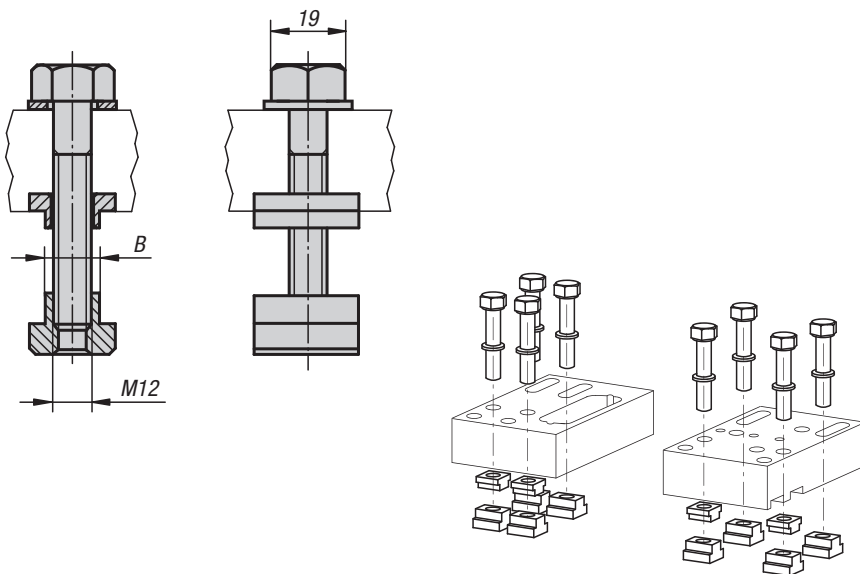
for T-slots



Material, version:
Carbon steel, black oxidised.

Sample order:
K0951.1412

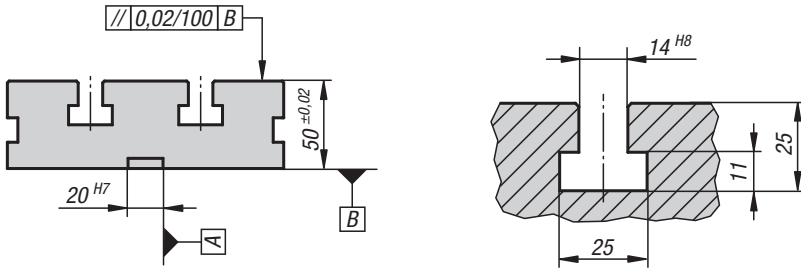
Note:
Fastening sets for aligning and securing 3 and 5 axis vices on tables with T-slots sizes 14 or 18.
Sets consisting of:
8x ISO 4014 M 12x60 12.9 hex head bolts
8x DIN 508 T-slot nuts
8x washers
4x slot keys



KIPP Fastening set for T-slots

Order No.	Version	B
K0951.1412	Slot width 14	14
K0951.1812	Slot width 18	18

T-slot plate



Material, version:

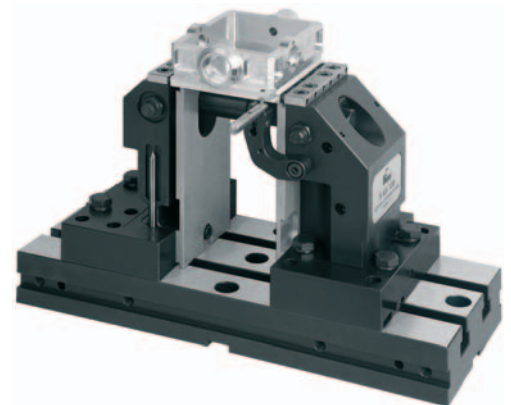
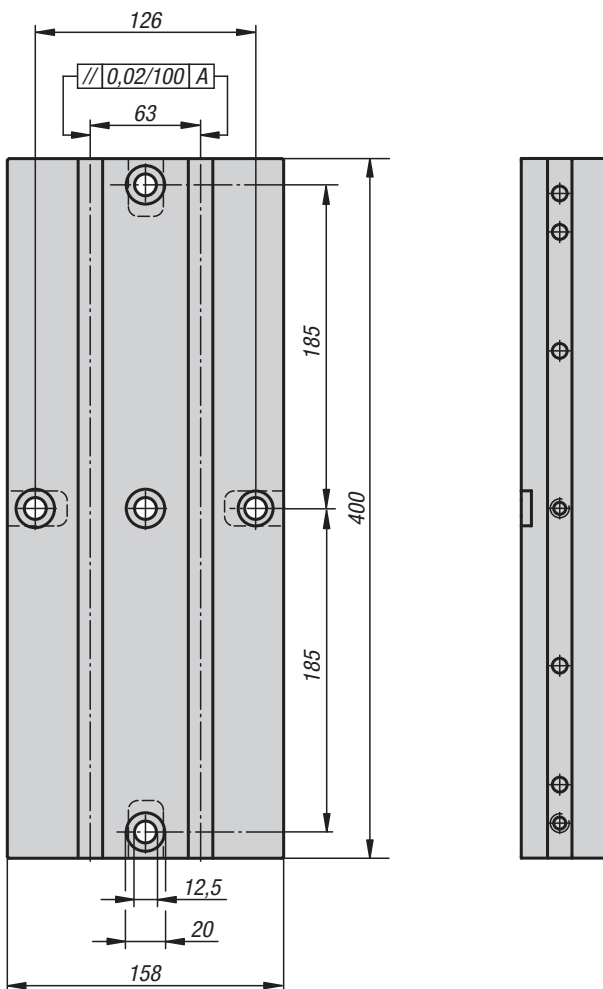
Carbon steel, black oxidised.
Contact faces ground.

Sample order:

K0952.14063400

Note:

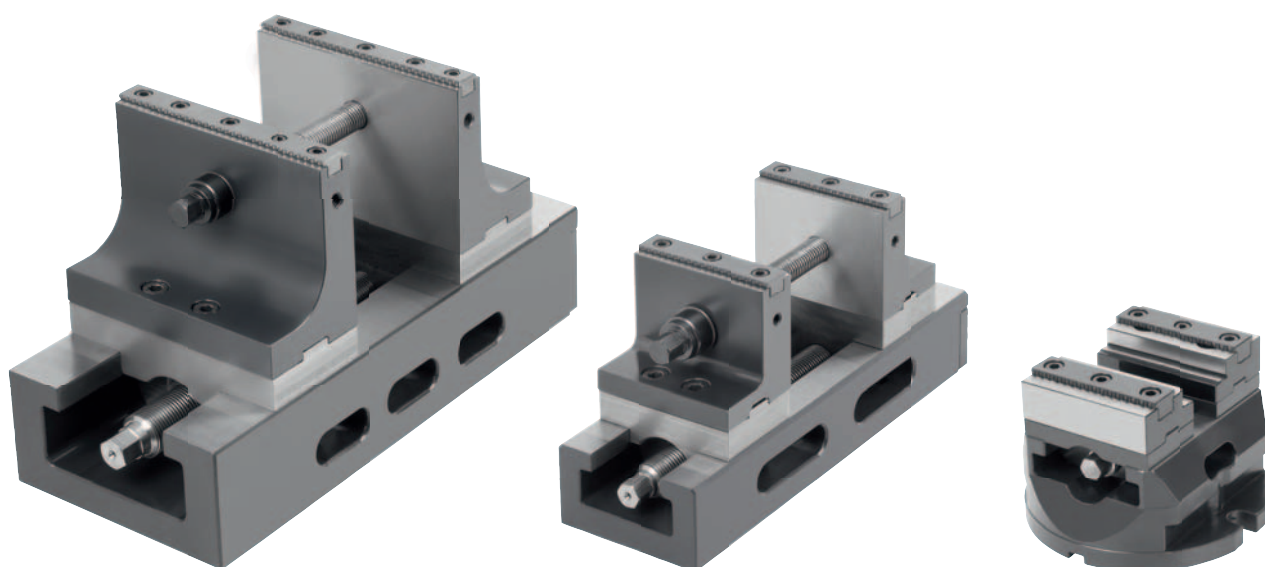
T-slot plates with locating slots on the underside for easy alignment of the plate on the machine table.



KIPP T-slot plate

Order No.	Version	weight kg
K0952.14063400	Slot width 14 / slot spacing 63	21,135

Centric vices



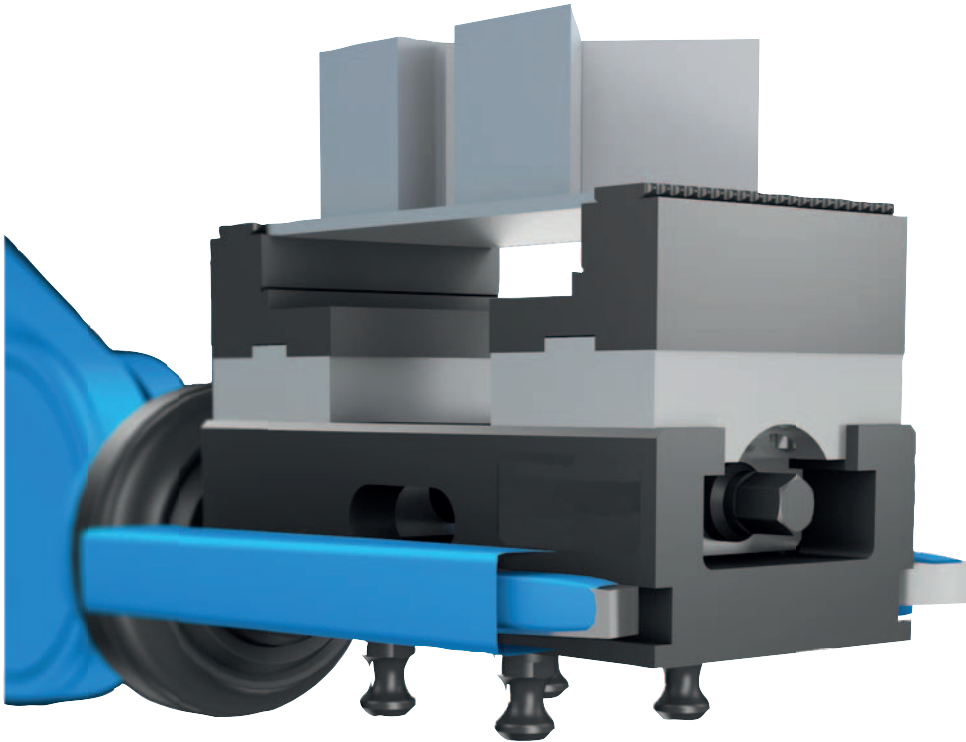
Technical information for centric vices



Mechanically actuated centric vice

Centring precision +/- 0.02 mm across the entire clamping range.

We recommend using a torque wrench for controlling the clamping force.



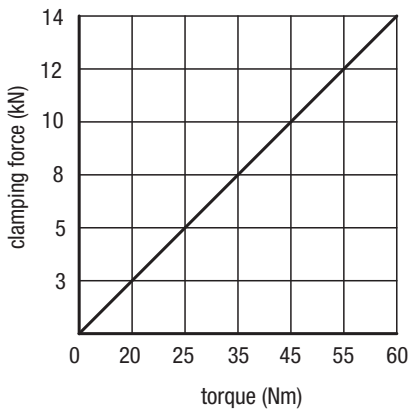
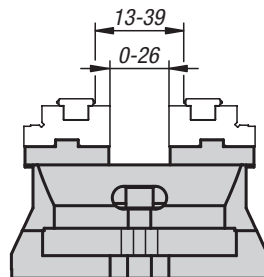
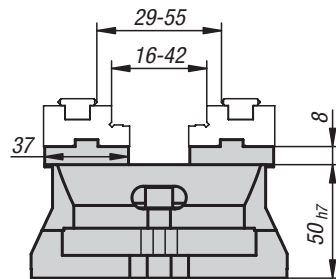
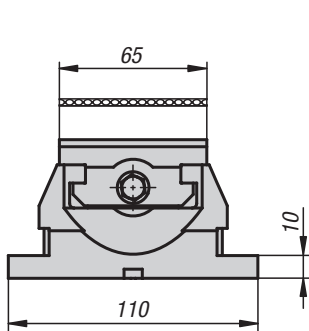
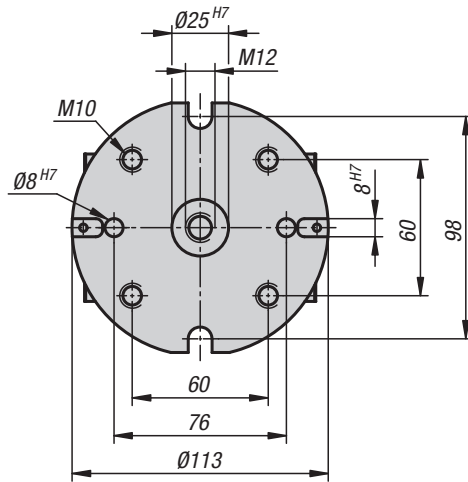
Flexible connection options:

1. Support for the zero-point clamping system. Fitting 25H6/M12.
Reamed and tapped holes for clamping pins for zero-point clamping systems are integrated into each centric vice. These vices can therefore be used on conventional zero-point clamping systems.
2. Support for handling systems / suitable for automation.
There is also the option of transporting the centric vices using handling systems.
3. Support with adapter plate for grid system M12/Ø12F7, grid spacing 50 mm.
Assembly with an adapter plate suitable for grid systems M12/Ø12F7 ensures flexible positioning on basic elements with a grid system.
4. Support directly on the machine table.
Using the lateral fastening slots, the centric vices can also be mounted on the machine table as required.



Centric vices

jaw width 65 mm



Material:

Body and jaw holder mild steel.
Spindle high-strength special steel.

Version:

Body and jaw holder hardened and ground.

Sample order:

K1236.065100

Note for ordering:

Supplied with hexagon crank handle.
Order jaw plates separately.

Note:

Mechanically operated centric vice.
Suitable for automation: prepared with gripper slot for handling systems.
Flexible mounting: suitable for zero-point systems, mounting on machine tables or on custom systems via a baseplate.
Centring precision: +/- 0.02 mm.

The use of a torque wrench is recommended to achieve a controlled clamping force.

Features:

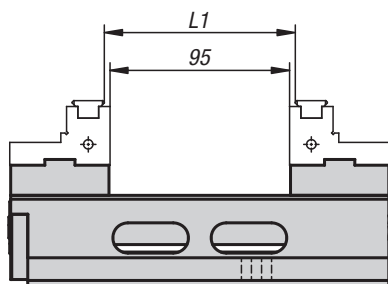
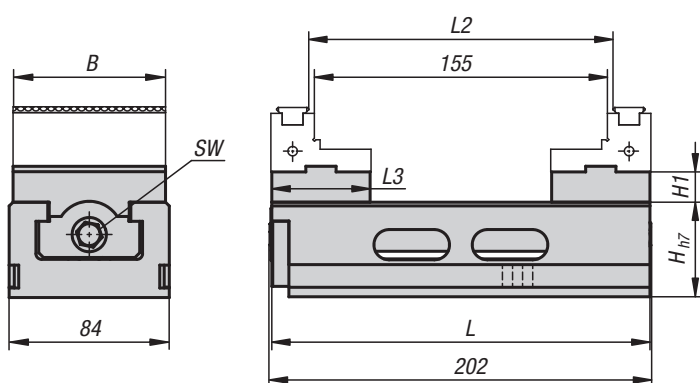
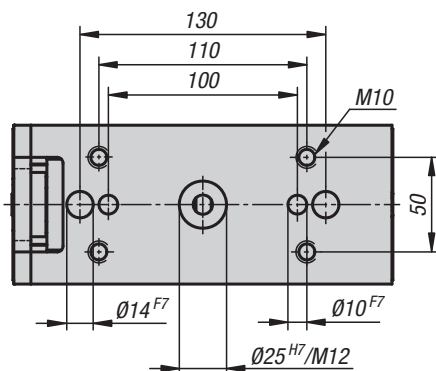
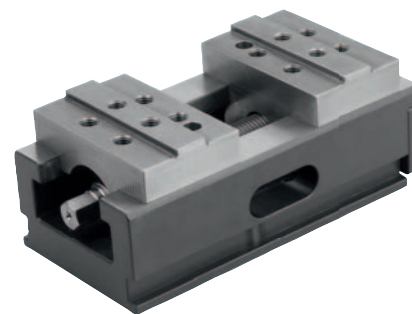
- Clamping slide and spindle nut in one piece
- Slots and fastening threads for mounting attachment jaws
- Reversible jaws (accessories) with lateral thread for workpiece stop enables a wider clamping range
- Good swarf and coolant removal

KIPP Centric vice jaw width 65 mm

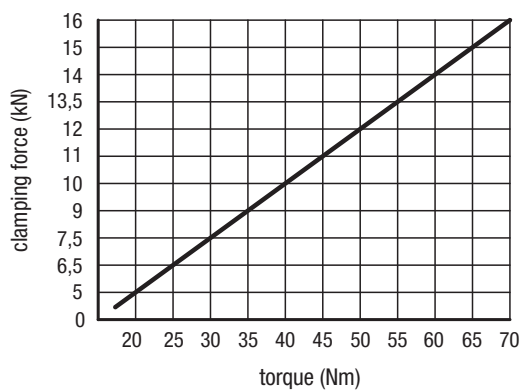
Order No.	Dimensions	weight kg
K1236.065100	see drawing	2,95

Centric vices

jaw width 80–125 mm



B = 80 mm



Material:

Body and jaw holder mild steel.
Spindle high-strength special steel.

Version:

Body and jaw holder hardened and ground.

Sample order:

K1237.080200

Note for ordering:

Supplied with hexagon crank handle.
Order jaw plates separately.

Note:

Mechanically operated centric vice.
Suitable for automation: prepared with gripper slot for handling systems.
Flexible mounting: suitable for zero-point systems, mounting on machine tables or on custom systems via a baseplate.
Centring precision: +/- 0.02 mm.

The use of a torque wrench is recommended to achieve a controlled clamping force.

Features:

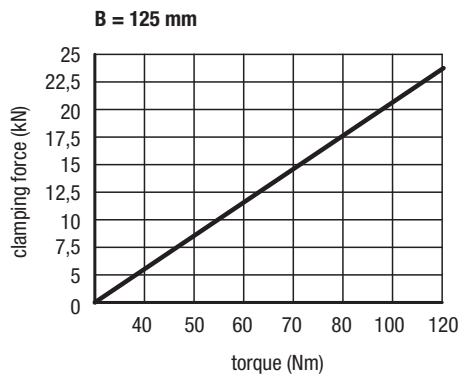
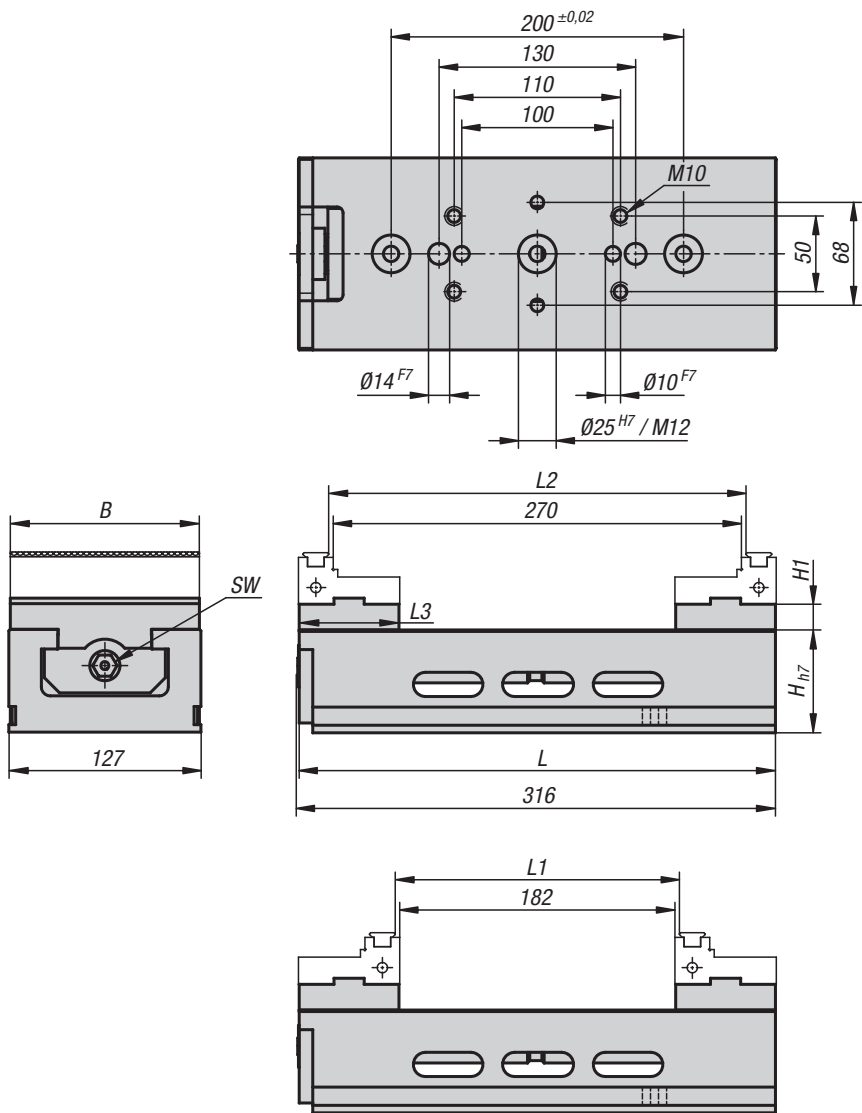
- Clamping slide and spindle nut in one piece
- Slots and fastening threads for mounting attachment jaws
- Reversible jaws (accessories) with lateral thread for workpiece stop enables a wider clamping range
- Good swarf and coolant removal

KIPP Centric vices, jaw width 80 mm

Order No.	B	H	H1	L	L1	L2	L3	SW	weight kg
K1237.080200	80	50h7	16	200	6-101	66-161	52	12	5,82

Centric vices

jaw width 80–125 mm

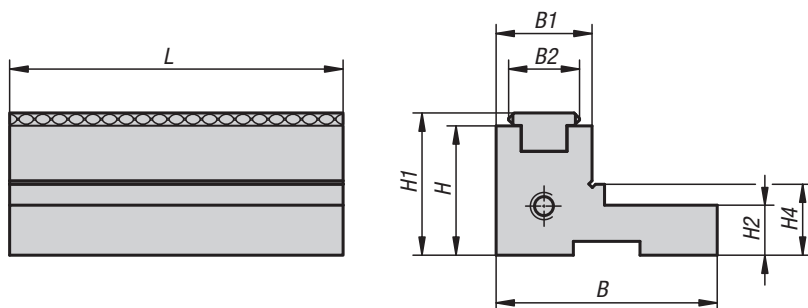


KIPP Centric vices, jaw width 125 mm

Order No.	B	H	H1	L	L1	L2	L3	SW	weight kg
K1237.125315	125	68h7	17	315	6-188	94-276	66	14	16,85

Attachment jaws

stepped, with grip rail



Material, version:

Step jaw hardened steel, clamping faces ground.
Grip strip hardened steel

Sample order:

K0587.0801

Note:

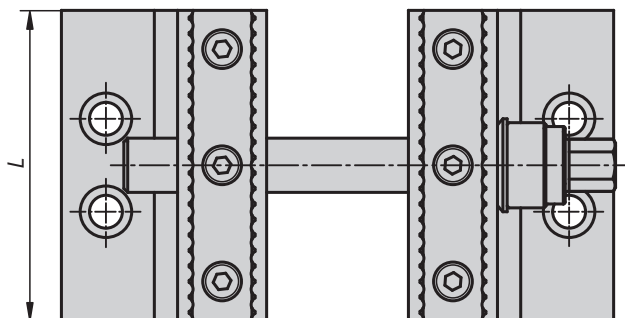
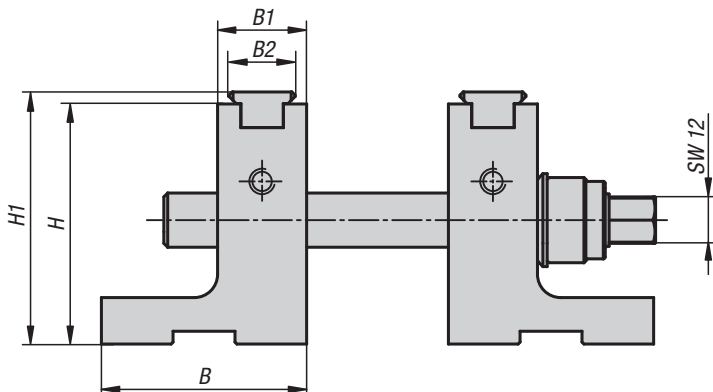
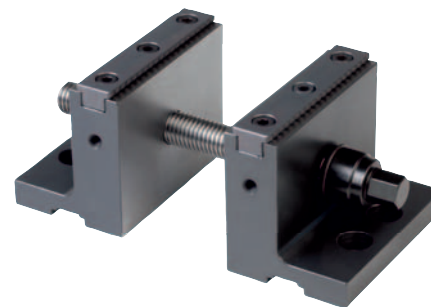
These attachment step jaws are suitable for centric vices. The clamping width can be increased or decreased by reversing the jaws. The gripper jaw pads can also be exchanged for smooth jaw pads.

KIPP Attachment jaws, stepped, with grip rail

Order No.	B	B1	B2	H	H1	H2	H4	L	weight kg
K0587.0651	38	30	17	18	21,1	9	9,5	65	0,354
K0587.0801	53	23	17	31	34,1	12	17	80	0,5
K0587.1251	67	23	17	31	34,1	18	23	125	1,55

Step jaw attachment

for 5-axis machining



Material, version:

Step jaw hardened steel, clamping faces ground.
Grip strip hardened steel

Sample order:

K1115.0801

Note for ordering:

High attachment step jaws in pairs with two gripper inserts and three different lengths of clamping spindle.

Note:

The workpiece is first centred using the lower centring spindle, then finally clamped using the upper clamping spindle.

Basic set:

For 80 mm jaw width.

Supplied with a pair of high add-on step jaws with 2 gripper inserts and 3 clamping spindles in various lengths.

1. length 80 mm clamping range 6mm - 35mm.
2. length 140 mm clamping range 6mm - 95mm.
3. length 200 mm clamping range 6mm - 155mm.

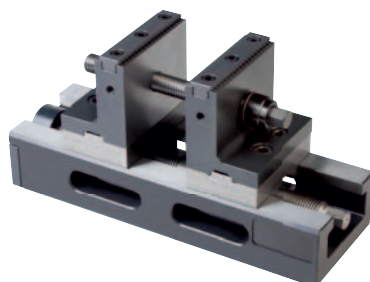
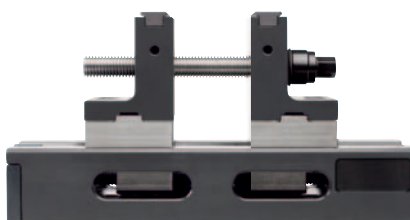
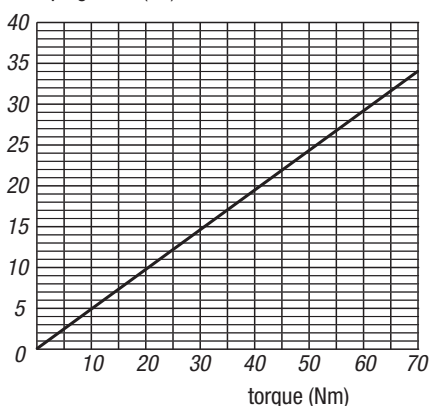
For jaw width 125 mm.

Supplied with a pair of high attachment step jaws with 2 gripper inserts and 3 clamping spindles in various lengths.

1. Length 110 mm, clamping range 6 mm – 60 mm.
2. Length 245 mm, clamping range 6 mm – 200 mm.
3. Length 315 mm, clamping range 6 mm – 270 mm.

clamping force diagram

clamping force (kN)



Advantages:

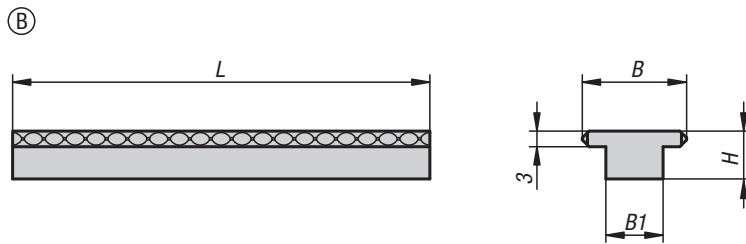
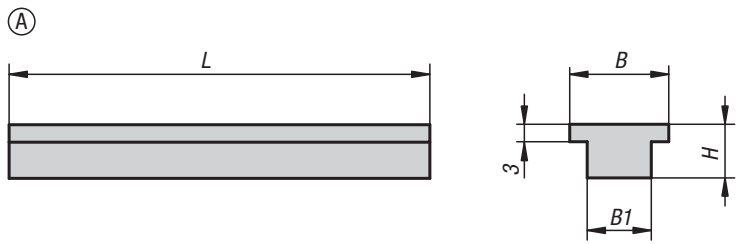
Ideal for 5-side machining. High setup on the machine table for 5-axis machines. Clamping force directly under the workpiece. The attachment jaws can be retrofitted for the 80 mm and 125 mm centric vices. The workpiece is first centred using the lower centring spindle, then finally clamped using the upper clamping spindle.

KIPP Step jaw attachment for 5-axis machining

Order No.	Version 1	B	B1	B2	H	H1	L	weight kg
K1115.0801	for 5-axis machining	53	23	17	62	65,1	80	2,689
K1115.1251	for 5-axis machining	67	23	17	90	93,1	125	6,32

Inserts

for stepped jaw



Material:
Steel.

Version:
Hardened and ground.

Sample order:
K0591.080117

Note:
Inserts Form A with smooth face Form B serrated face for maximum holding force.

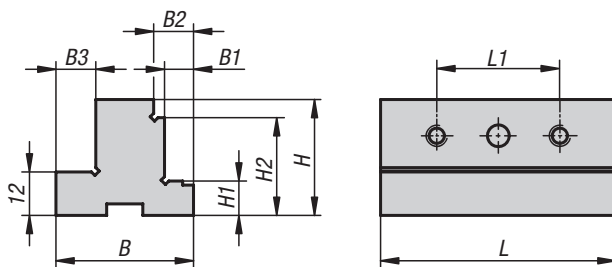
KIPP Inserts for stepped jaws

Order No. Form A	Order No. Form B	B	B1	H	L
K0591.065117	K0591.065217	17	11	9,2	65
K0591.080117	K0591.080217	17	11	9,2	80
K0591.125117	K0591.125217	17	11	9,2	125

K1383

Attachment step jaws

for centric vice, jaw width 65 mm



Material:
Steel.

Version:
Hardened.

Sample order:
K1383.06532

Note:
Attachment step jaws are the base onto which the jaw pads are screwed. They in turn are screwed directly onto the centric vice base. They enable various jaw plates to be exchanged quickly.

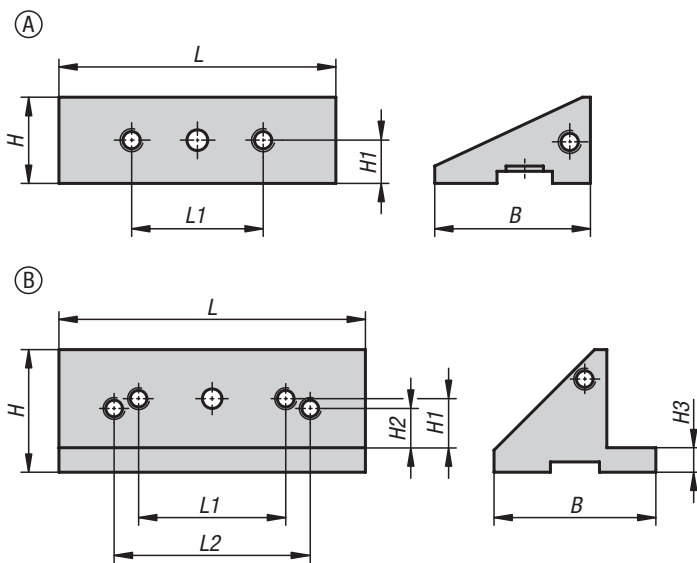
KIPP Attachment step jaws for centric vice, jaw width 65 mm

Order No.	B	B1	B2	B3	H	H1	H2	L	L1
K1383.06532	38	8	11	11	32	9,5	27	65	34

Suitable for K1236

Attachment step jaws

for centric vice, jaw width 80–125 mm



Material:
Steel.

Version:
Hardened.

Sample order:
K1384.08025

Note:
Attachment step jaws are the base onto which the jaw pads are screwed. They in turn are screwed directly onto the centric vice base. They enable various jaw plates to be exchanged quickly.

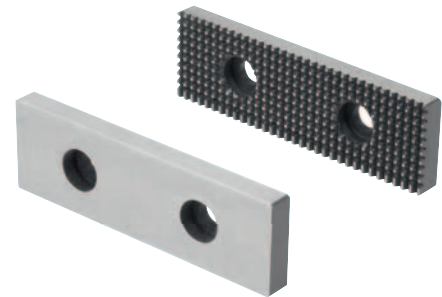
Suitable for K1237

KIPP Attachment step jaws for centric vice, jaw width 80–125 mm

Order No.	Form	B	H	H1	H2	H3	L	L1	L2
K1384.08025	A	45	25	12,5	-	-	80	38	-
K1384.12550	B	66	50	20	16	10	125	60	80

Jaw pads

for centric vice 65-80-125 mm



Material:
Steel hardened.

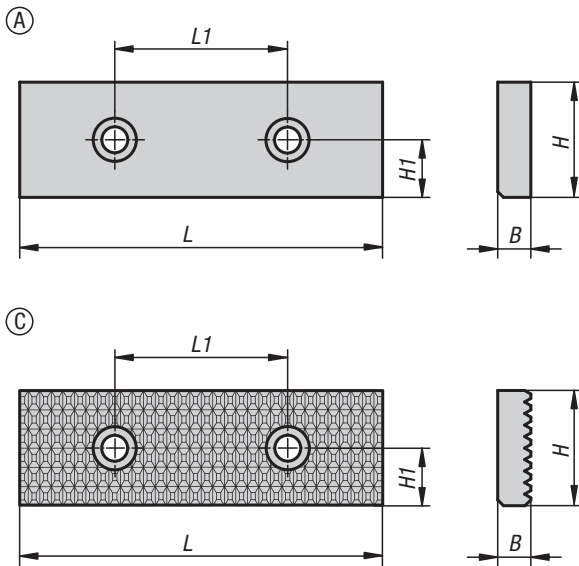
Version:
Clamping faces ground.

Sample order:
K0598.0651

Note:
These jaw pads can be used for clamping various workpiece types. Depending on the pad used, rough or pre-machined workpieces can be held.
The jaw pads are screwed onto the attachment jaws.

Suitable for K1236, K1237

Drawing reference:
Form A: smooth
Form C: serrated

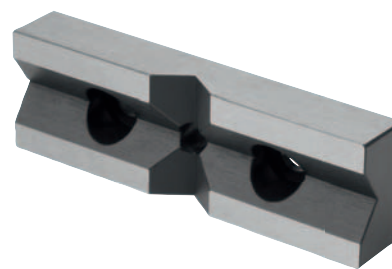
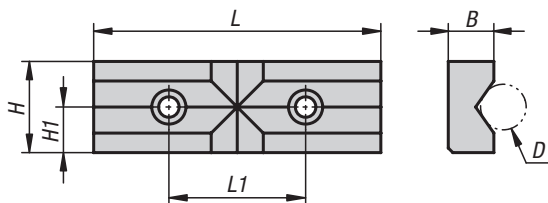


KIPP Jaw pads for centric vice 65-80-125 mm

Order No.	Form	B	H	H1	L	L1
K0598.0651	A	7,5	20	10	66	34
K0598.0801	A	7,5	25	12,5	81	38
K0598.1251	A	11,5	40	20	126	60
K0598.0653	C	7,5	20	10	66	34
K0598.0803	C	7,5	25	12,5	81	38
K0598.1253	C	11,5	40	20	126	60

Prism jaw pads

for centric vice, 65–80–125 mm



Material:
Steel.

Version:
Hardened.

Sample order:
K1375.065

Note:
Prism jaws are used for clamping round material, tubes, rods, profiles, etc. The prisms are machined in horizontally and vertically. The prism jaw pads are screwed onto the attachment jaws.

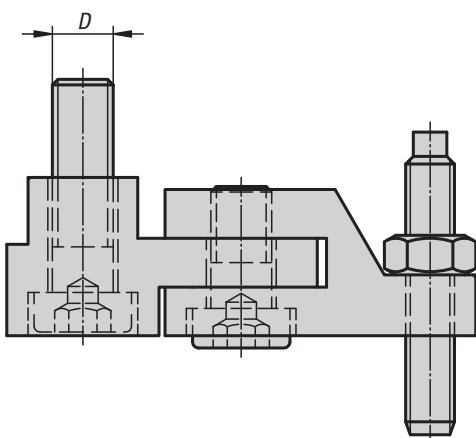
Suitable for K1236 and K1237

KIPP Prism jaw pads for centric vice, 65–80–125 mm

Order No.	B	D	H	H1	L	L1
K1375.065	12,5	5-25	20	10	66	34
K1375.080	12,5	5-25	25	12,5	81	38
K1375.125	20	8-38	40	20	126	60

K0607

Hinged stops



Material, version:
Steel, black oxidised.

Sample order:
K0607.080

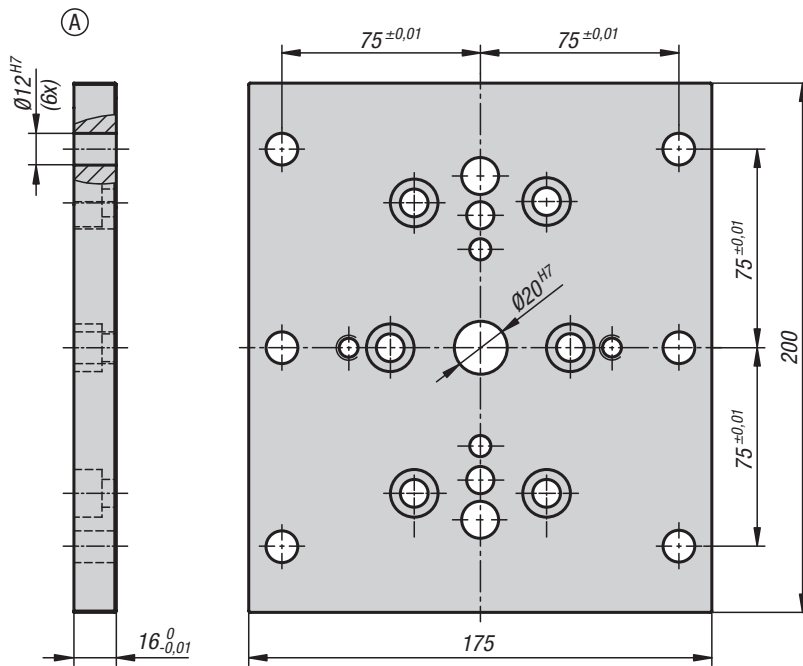
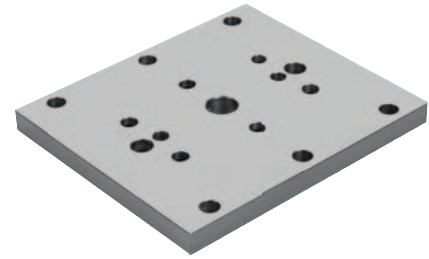
Note:
Hinged stop for fastening directly to the sliding or middle jaw.

KIPP Hinged stops

Order No.	D	Suitable for
K0607.080	M6	ZS 80-200
K0607.100	M8	ZS 100-350

Baseplate

for centric vice



Material:
Steel.

Version:
Hardened and ground.

Sample order:
K1274.12175200

Note:
Form A:
The baseplate enables the centric vices (65 - 80 - 125) to be mounted onto 50 mm x M12/12F7 grid systems.

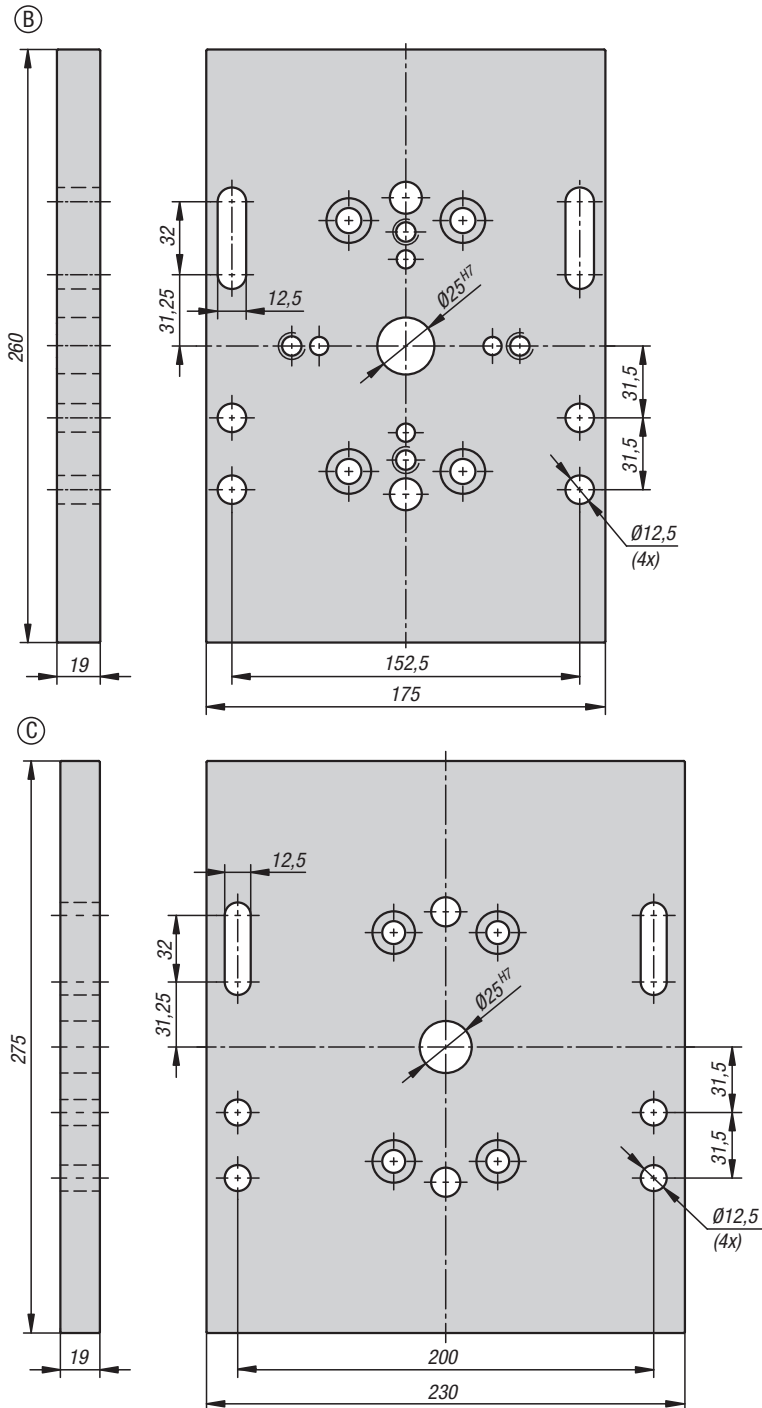
Form B+C:
The baseplate enables the centric vices (65 - 80 - 125) to be mounted on machine tables with T-slots.

KIPP Baseplate for centric vice

Order No.	Form	Suitable for	weight kg
K1274.12175200	A	centric vice 65, 80, 125	4,03

Baseplate

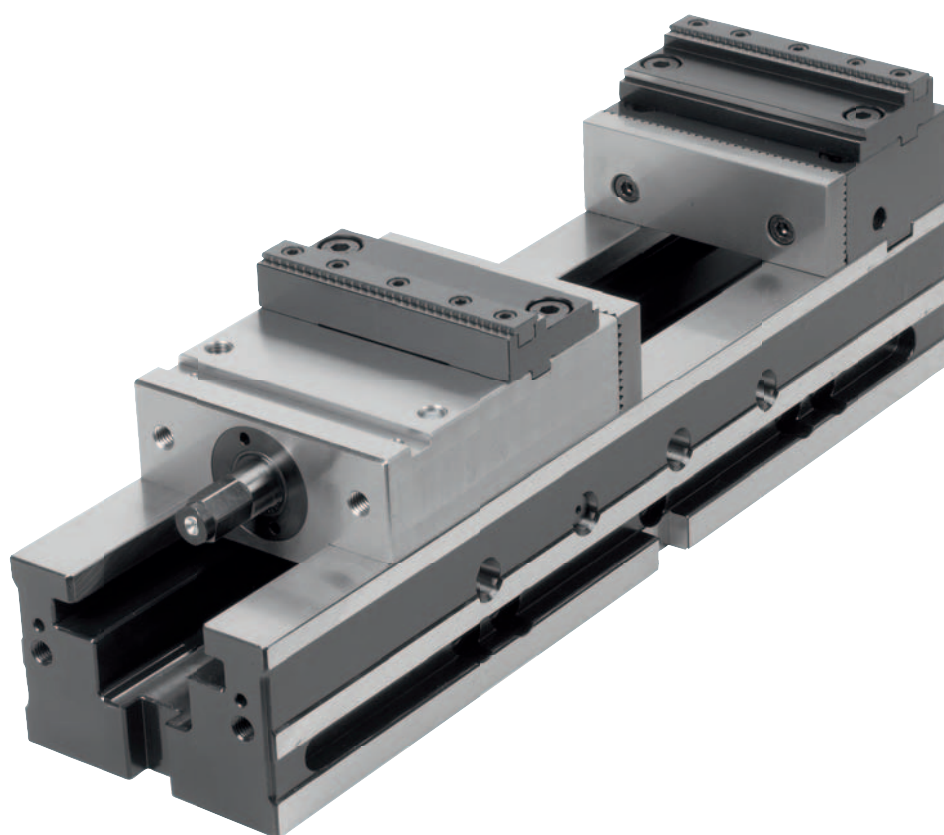
for centric vice



KIPP Baseplate for centric vice

Order No.	Form	Suitable for	weight kg
K1274.00175260	B	centric vice 65, 80	6,3
K1274.00230275	C	centric vice 125	7,5

NC Vices



Technical information for NC vices



Adaptable

Slot and thread for attachment jaws and for grippers.

Optional

Multiple clamping

Several workpieces can be clamped using reversible jaws. Tools are not used for installation.

Individual

Flexible – can be used for any machine table, ready to use immediately with clamp strap set and slot keys (optional).

Optimum positioning

Cross slot for alignment.

Quick pre-adjustment

Locking pins for quick pre-positioning.

Spindle drive

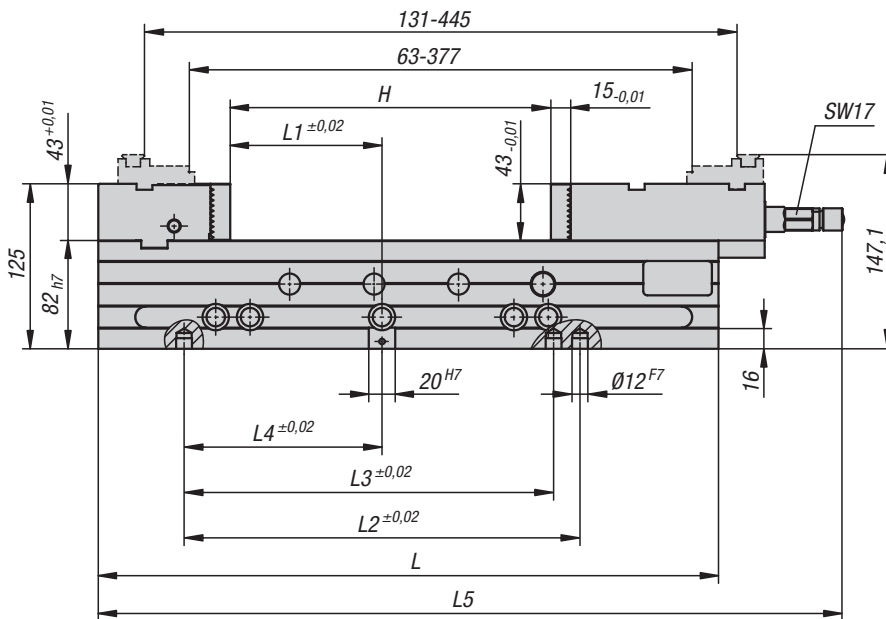
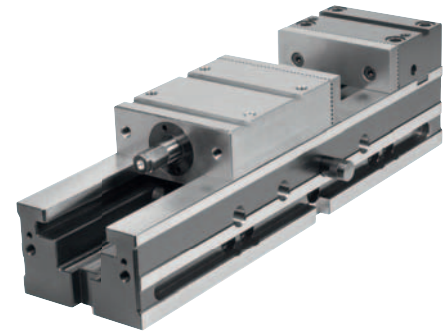
Mechanical-hydraulic version up to 40 kN or purely mechanical clamping up to 10 kN.

Impressive advantages:

- Repeat accuracy ≤ 0.01 mm
- Fixed jaw fixed in all directions (X,Y,Z)
- Wide clamping range due to use of attachment step jaws
- Basic equipment: 2 reversible screw-on jaws and 1 crank handle
- Can be laid on the side, with fastening holes for slot spacing of 63 mm and 100 mm.

NC vice

jaw width 125 mm



Material:

Body and jaw holder mild steel.

Version:

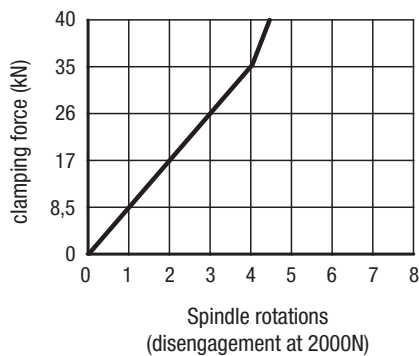
Hardened and ground all sides.

Sample order:

K1238.125470

Features:

- NC vices can be used for a wide range of clamping tasks:
- Repeat accuracy ≤ 0.01 mm
- Fixed jaw locked in all axis (X,Y,Z)
- Vertical use directly on the machine table
- Wide clamping range by using attachment step jaws
- Can be laid on the side, with fastening holes for slot spacing of 63 mm and 100 mm
- Quick pre-adjustment of the clamping range using locking pins
- Basic equipment includes two reversible screw-on jaws and one crank handle

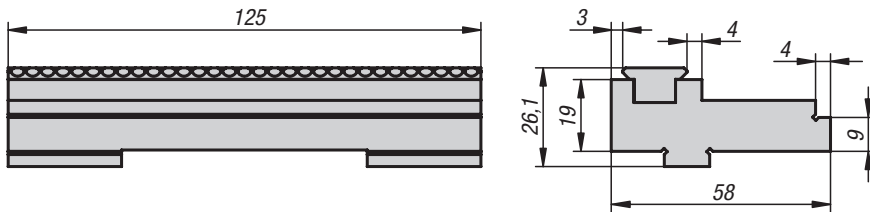
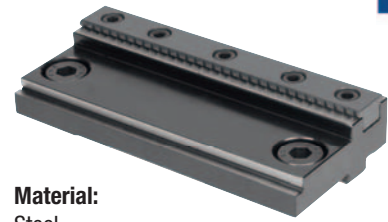


KIPP NC vice jaw width 125 mm

Order No.	B	L	L1	L2	L3	L4	L5	H clamping range	weight kg
K1238.125470	125	470	115	300	280	150	564	0-239	37,6

Attachment step jaw

with gripper for NC vice



Material:
Steel.

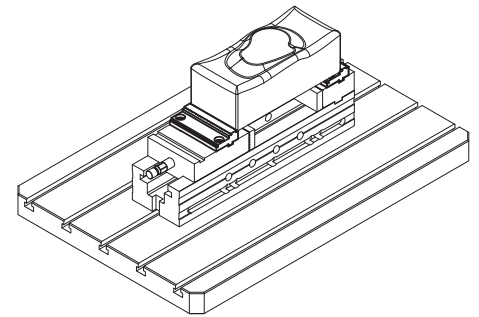
Version:
Hardened and ground.

Sample order:
K1273.1251

Note:
The attachment step jaws are for expanding the NC vice clamping width. The gripper jaw pads can be exchanged for smooth jaw pads K0591.125117.

KIPP Attachment step jaw with gripper jaw pad for NC vice

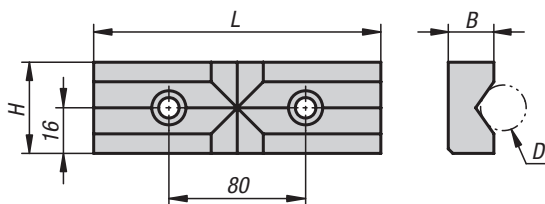
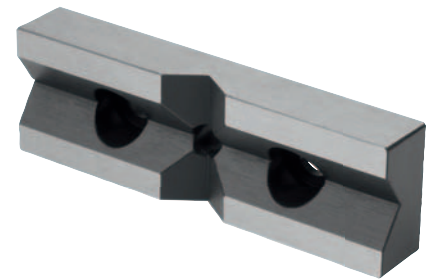
Order No.	Suitable for
K1273.1251	NC vice 125



K1376

Prism jaws

for NC vice



Material:
Steel.

Version:
Hardened.

Sample order:
K1376.125

Note:
Prism jaws for clamping round material, tubes, rods, profiles, etc. Prism machined horizontally and vertically.

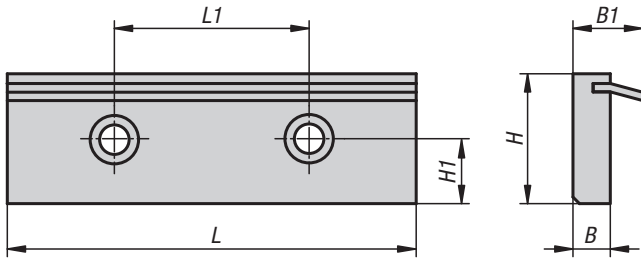
KIPP Prism jaws for NC vice

Order No.	B	D	H	L
K1376.125	20	8-38	43	125

Suitable for K1238.125470

Hold-down jaw pads with spring blade

for NC vice



Material:
Steel.

Version:
Hardened.

Sample order:
K0601.125

Note:
The hold-down jaw pads with spring blade are used for clamping rough workpieces. The spring blade exerts extra pressure to the workpiece, forcing it onto the seating face.

KIPP Hold-down jaw pads with spring blade for NC vice

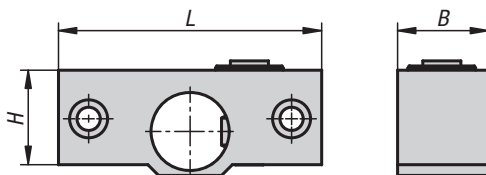
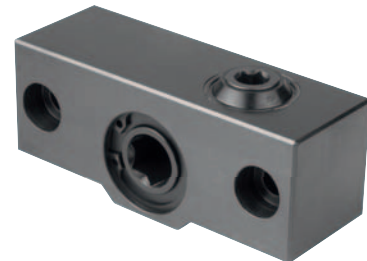
Order No.	B	B1	H	H1	L	L1
K0601.125	11,5	21,5	43	16	125	80

Suitable for K1238.125470

K1377

Angle drives

for NC vice



Material:
Housing steel.
Drive, steel.

Sample order:
K1377.125

Note:
The angle drive is used to operate the NC vice from above or in tight spaces.

- The ratio is 1:1.4
- NC vice without angle drive max. 4.5 turns. With angle drive max. 6.3 turns.
- The angle drive is especially useful for horizontal use of NC vices, e.g. in the case of clamping cubes or workholding towers. The angle drive can also be used to operate the NC vice from above or in tight spaces.

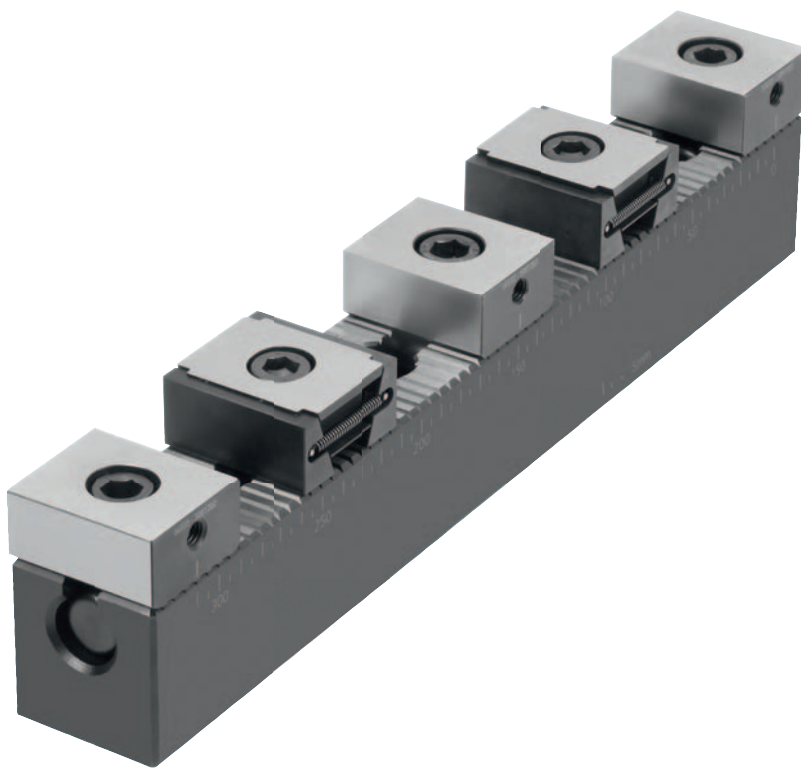
KIPP Angle drives for NC vice

Order No.	B	H	L
K1377.125	43	45	124,5

Suitable for K1238.125470



Multi-clamping system



Multi-clamping system

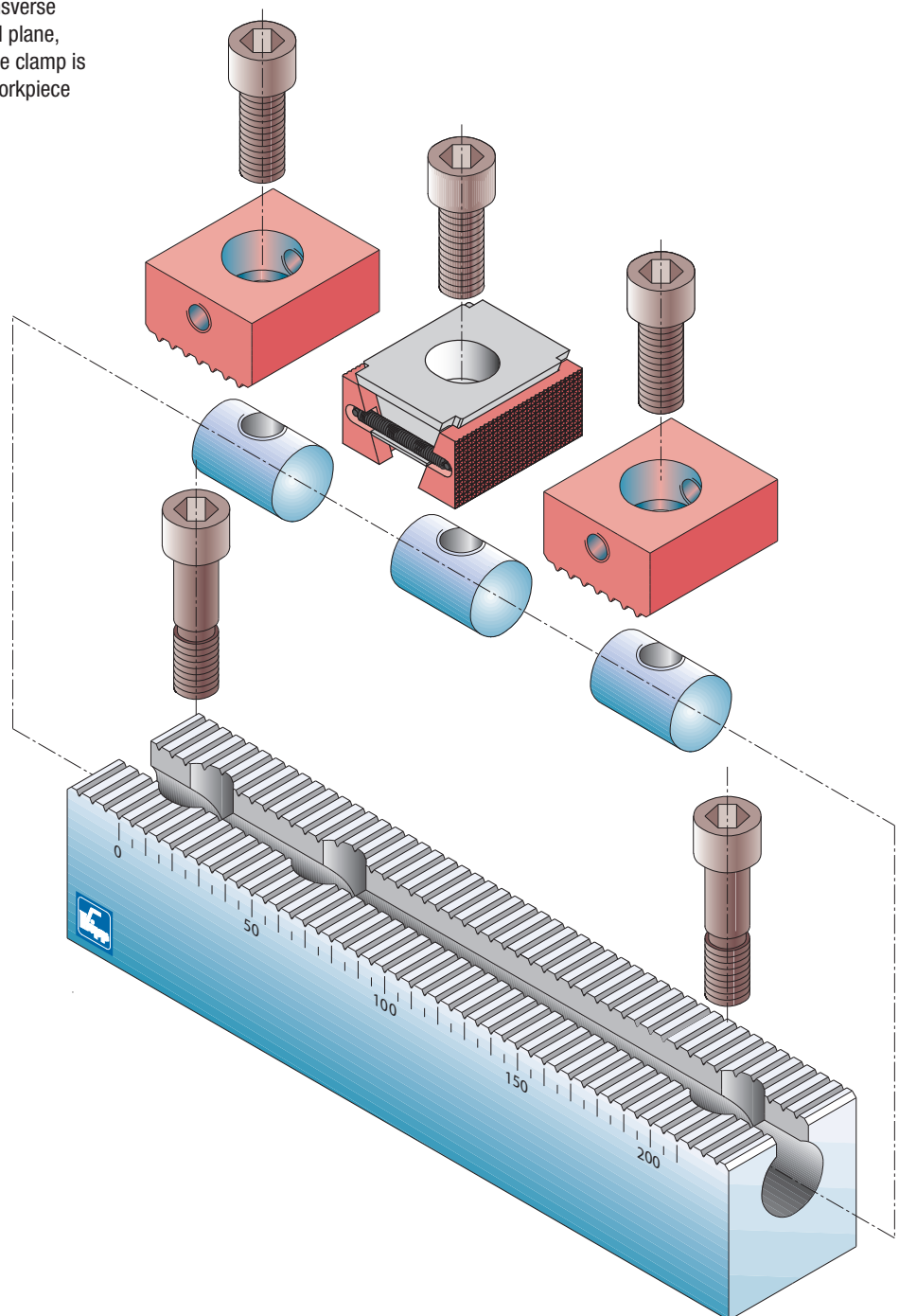


The multi-clamping system is used to clamp diverse workpieces on a base plate or directly on a machine table. The various elements of the multi-clamping system (base rails, stops and wedge clamps) allow workpieces of varied sizes to be held without difficulty.

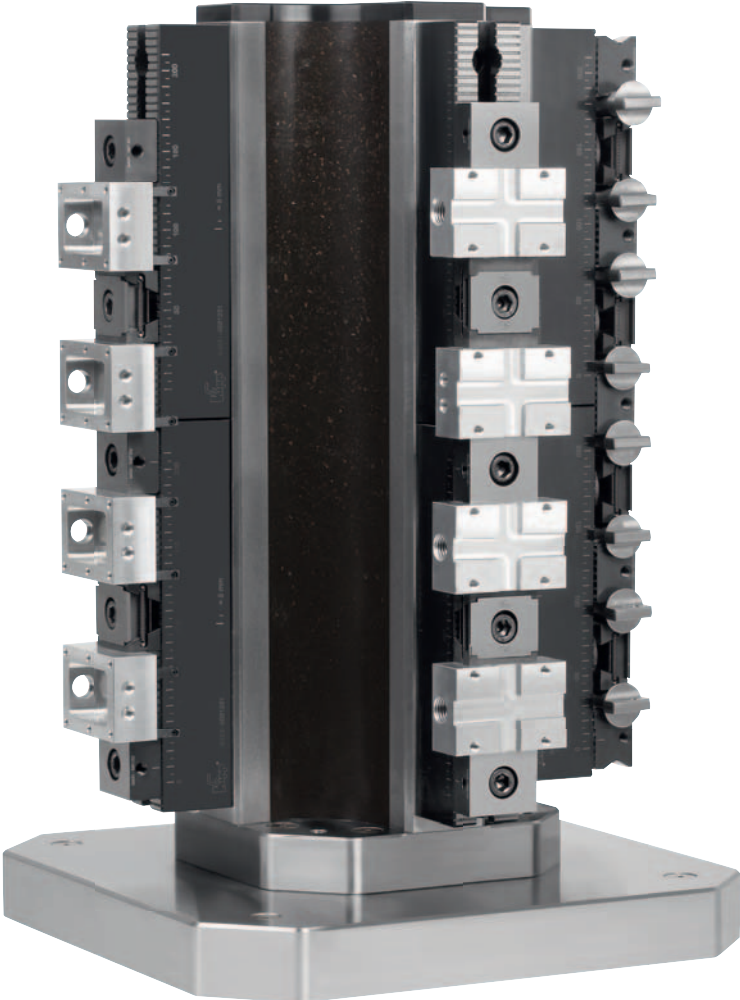
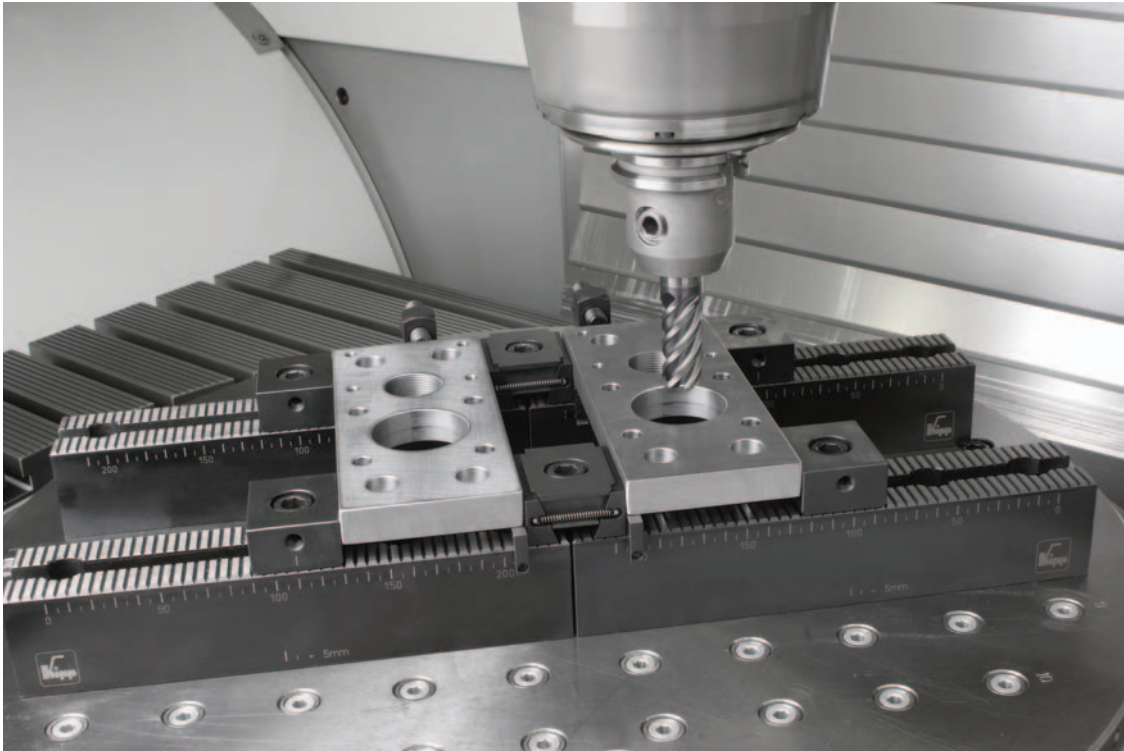
The serrations on the base rail guarantee a secure and exact fastening of the stops.

The working area of a machine can be more effectively used by mounting a number of base rails along and across the work surface.

The wedge clamps allow two workpieces to be held simultaneously from one clamping point. The transverse wedge design works in the vertical and horizontal plane, guaranteeing a secure hold in all directions. As the clamp is tightened the wedge jaws expand pressing the workpiece against the stops.

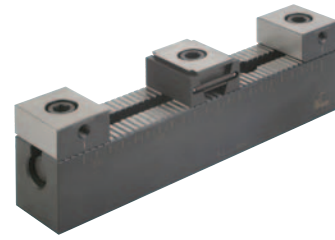


Example of a multi-clamping system



Multi-clamping system

hard stops



Material:

Base rail, stops and wedge clamp carbon steel.

Version:

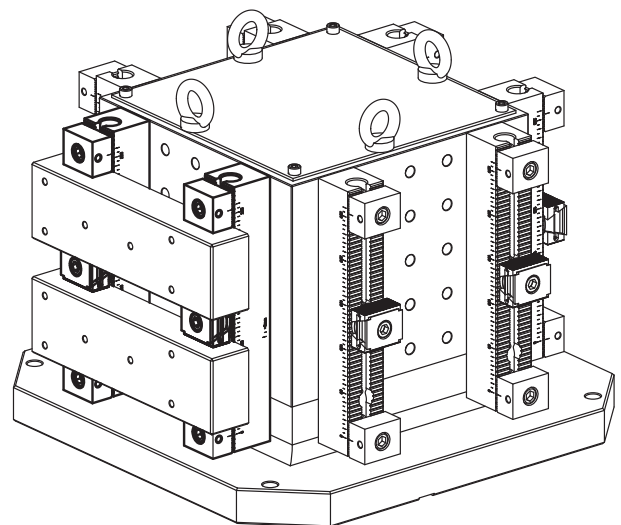
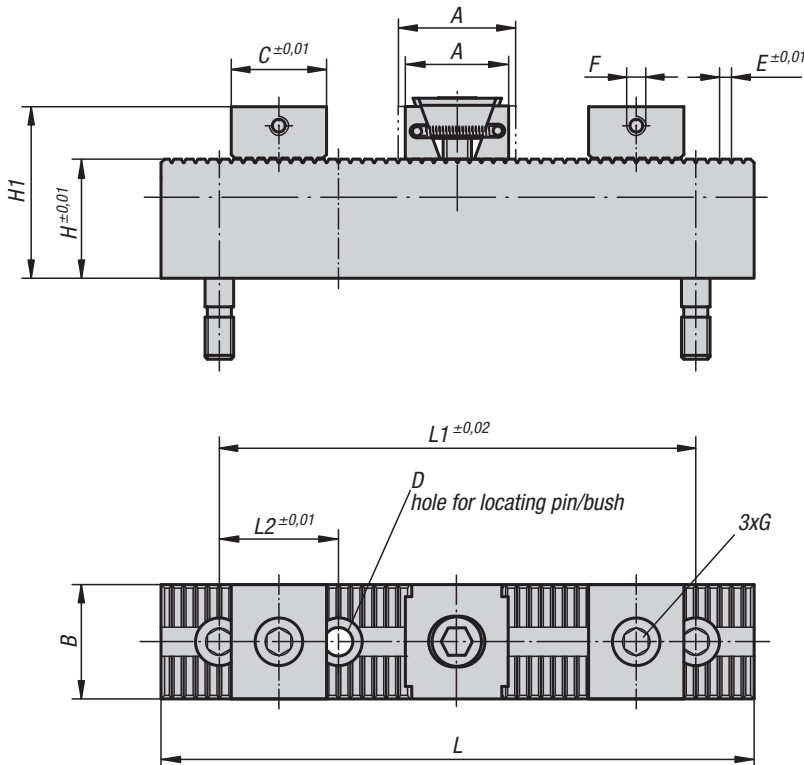
Serrations case hardened and ground.

Stops tempered.

Clamping jaws hardened and black oxidised.

Sample order:

K0902.12

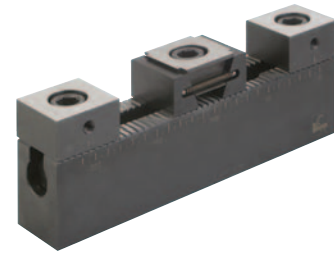


KIPP Multi-clamping system hard stops

Order No.	A min.	A max.	B	C	D	E	F	G cap screw DIN 912	H	H1	L	L1	L2	Clamping force ca. kN	weight kg
K0902.08	30,5	33,5	24	25	12 H6	2,5	M5	M8x25	40	55	199	150	50	15	1,35
K0902.12	44	49,5	48	40	12 F7	5	M8	M12x30	50	72	249	200	50	30	4,961
K0902.16	55	62	48	40	16 F7	5	M8	M16x40	63	92	249	200	50	50	6,016

Multi-clamping system

soft stops



Material:

Base rail, stops and wedge clamp carbon steel.

Version:

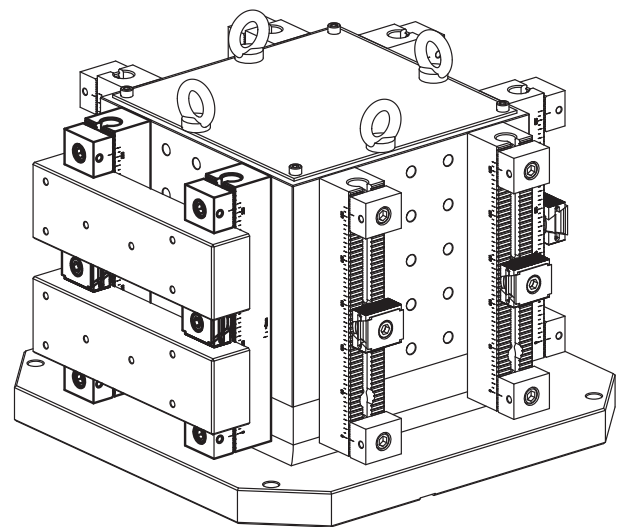
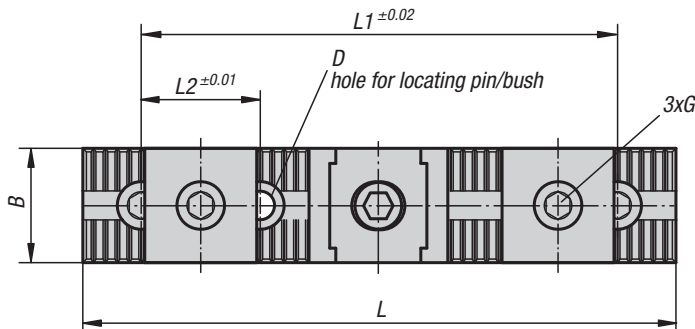
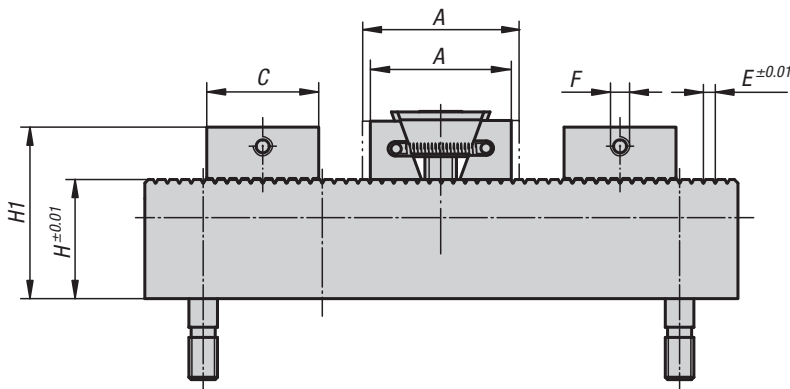
Serrations case hardened and ground.
Clamping jaws hardened and black oxidised.

Sample order:

K0903.12

Note:

Depending on the size the clamping jaws have 3 mm (K0903.08) or 5 mm (K0903.12, K0903.16) machining allowance per jaw.

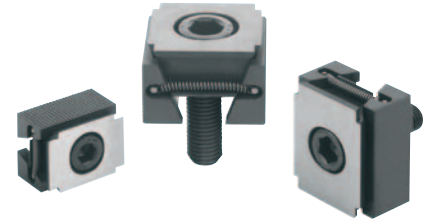


KIPP Multi-clamping system, soft stops

Order No.	A min.	A max.	B	C	D	E	F	G cap screw DIN 912	H	H1	L	L1	L2	Clamping force ca. kN	weight kg
K0903.08	36,5	39,5	24	31	12 H6	2,5	M5	M8x25	40	55	199	150	50	11	1,397
K0903.12	54	59,5	48	50	12 F7	5	M8	M12x30	50	72	249	200	50	23	4,9
K0903.16	65	72	48	50	16 F7	5	M8	M16x40	63	92	249	200	50	38	6,522

Wedge clamps

jaw face smooth or serrated



Material:

Wedge and jaw segments carbon steel.

Version:

Wedge and jaw segments hardened, black.

Sample order:

K0039.2208

Note:

The functioning principle make the wedge clamps ideal for series clamping. The wedge form can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the socket screw moves the wedge down and the jaws out pressing the workpieces against the fixtures fixed stops. The wedge has a slightly elongated hole allowing for movement to compensate for tolerances.

Spread width:

M8 = ±0.5 mm

M10 = ±1.0 mm

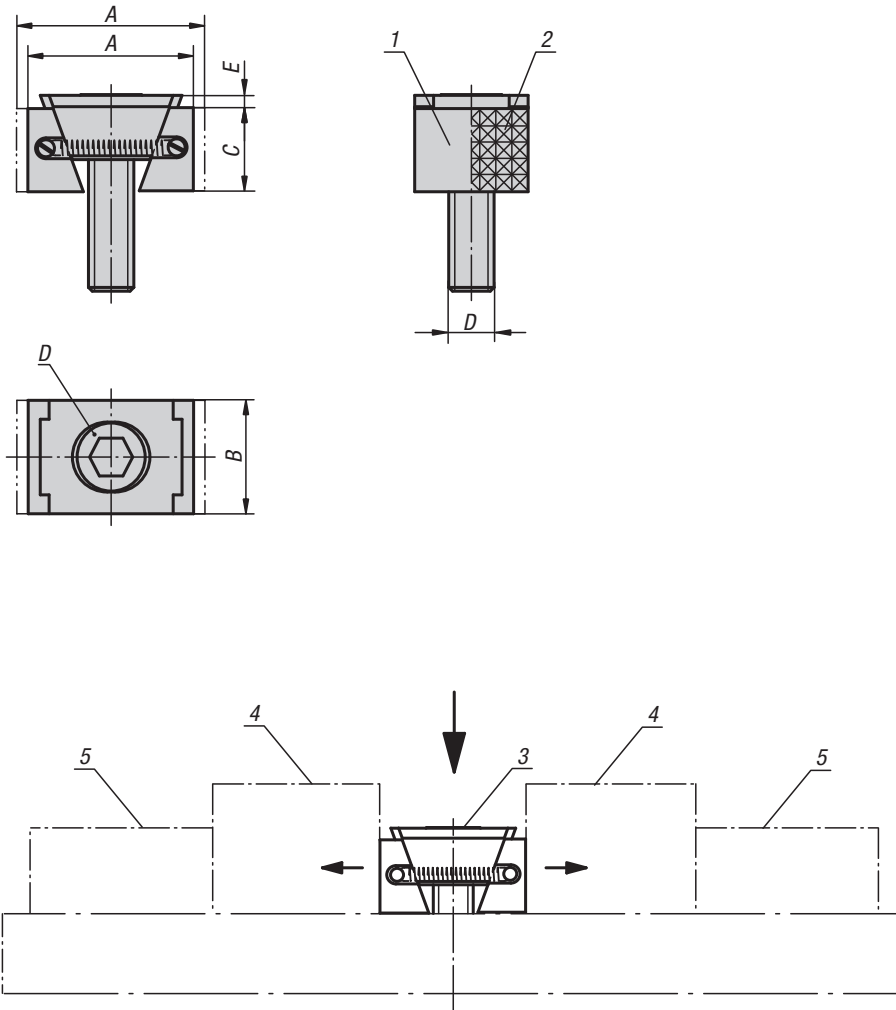
M12 = ±1.0 mm

M16 = ±1.5 mm

Drawing reference:

D) DIN 6912 cap screw

- 1) Jaw face smooth
- 2) Jaw face serrated
- 3) Wedge clamps
- 4) Workpiece
- 5) Fixed stop



KIPP Wedge clamps, narrow version

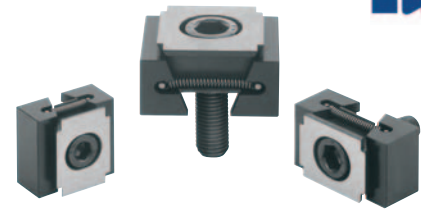
Order No. smooth	Order No. serrated	A min.	A max.	B	C	D	E	Clamping force max. kN	Tightening torque max. Nm
K0039.1108	K0039.2108	30,5	33,5	24	15	M8X25	2	15	25
K0039.1110	K0039.2110	32	37	28	19	M10X25	3,5	20	49
K0039.1112	K0039.2112	44	49,5	30	22	M12X40	3,5	30	85
K0039.1116	K0039.2116	55	62	40	29	M16X60	4	50	210

KIPP Wedge clamps, wide version

Order No. smooth	Order No. serrated	A min.	A max.	B	C	D	E	Clamping force max. kN	Tightening torque max. Nm
K0039.1208	K0039.2208	30,5	33,5	30	15	M8X25	2	15	25
K0039.1210	K0039.2210	32	37	38	19	M10X25	3,5	20	49
K0039.1212	K0039.2212	44	49,5	48	22	M12X40	3,5	30	85
K0039.1216	K0039.2216	55	62	48	29	M16X60	4	50	210

Wedge clamps

machinable



Material:

Wedge and jaw segments carbon steel.

Version:

Wedge and jaw segments hardened, black.

Sample order:

K0649.3110

Note:

These wedge clamps have extra long jaws. This extra material allows the jaws to be machined to suit the form of the workpiece.

The functioning principle makes the wedge clamps ideal for series clamping. The wedge form can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the socket screw moves the wedge down and the jaws out, pressing the workpieces against the fixtures fixed stops.

The wedge has a slightly elongated hole allowing for movement to compensate for tolerances.

Spread width:

M8 = ±0.5 mm

M10 = ±1.0 mm

M12 = ±1.0 mm

M16 = ±1.5 mm

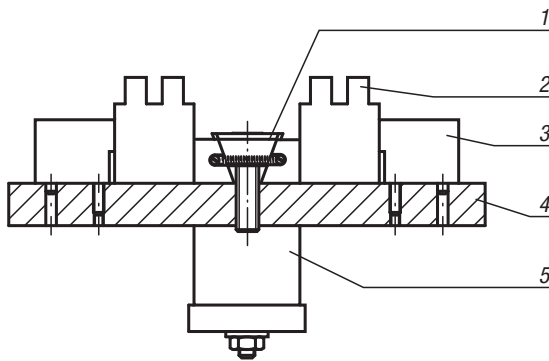
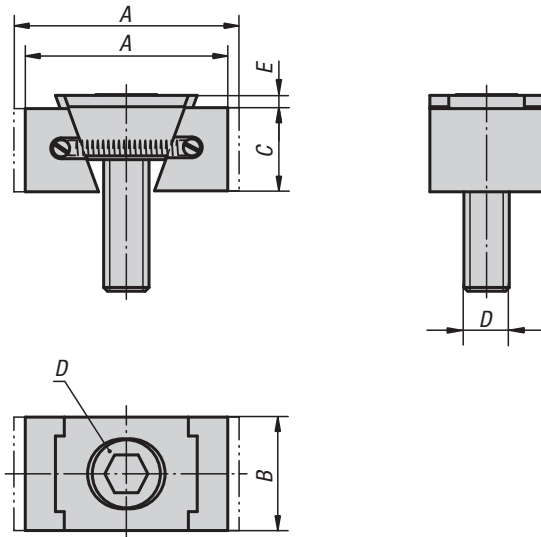
Attention:

These wedge clamps have a machining allowance per jaw of 3 mm for version M8 and 5 mm for versions M10, M12 and M16.

Drawing reference:

D) DIN 6912 cap screw

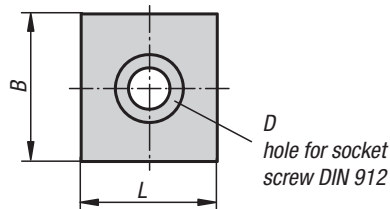
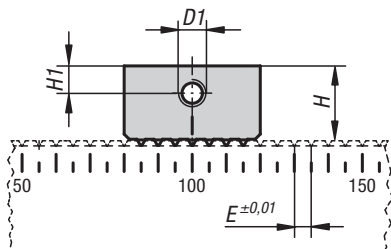
- 1) wedge clamps
- 2) workpiece
- 3) fixed stop
- 4) base plate
- 5) hydraulic/pneumatic cylinder



KIPP Wedge clamps machinable

Order No.	Version	A min.	A max.	B	C	D	E	Clamping force max. kN	Tightening torque max. Nm
K0649.3108	narrow	36,5	39,5	24	15	M8X25	2	11	19
K0649.3110	narrow	42	47	28	19	M10X25	3,5	15	37
K0649.3112	narrow	54	59,5	30	22	M12X40	3,5	23	65
K0649.3116	narrow	65	72	40	29	M16X60	4	38	160
K0649.3208	wide	36,5	39,5	30	15	M8X25	2	11	19
K0649.3210	wide	42	47	38	19	M10X25	3,5	15	37
K0649.3212	wide	54	59,5	48	22	M12X40	3,5	23	65
K0649.3216	wide	65	72	48	29	M16X60	4	38	160

Stops



KIPP Stops

Order No.	Version	B	D	D1	E	H	H1	L
K0905.5000802	hard	24	M8x25	M5	2,5	15	6	25 ±0,01
K0905.5001202	hard	48	M12x30	M8	5	22	8	40 ±0,01
K0905.5001602	hard	48	M16x40	M8	5	29	12,5	40 ±0,01
K0905.5100802	soft	24	M8x25	M5	2,5	15	6	31 ±0,1
K0905.5101202	soft	48	M12x30	M8	5	22	8	50 ±0,1
K0905.5101602	soft	48	M16x40	M8	5	29	12,5	50 ±0,1



Material:

Carbon steel 1.0503.

Version:

Hard stop:
Tempered to 1200–1400 N/mm², black oxidised.
Serrations ground, bright.

Soft stop:

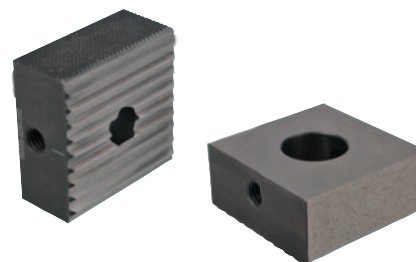
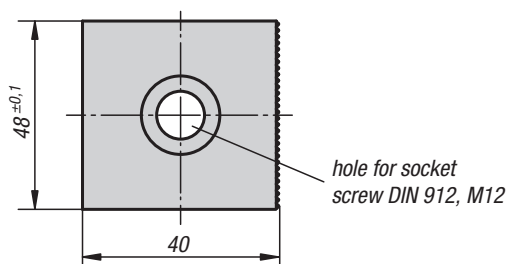
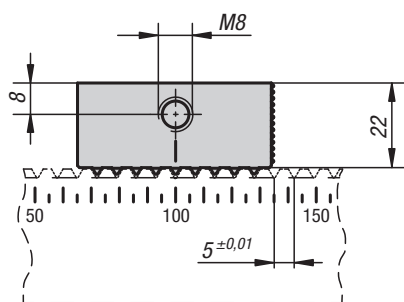
Hardness HRC 30, black oxidised.
Serrations case hardened and ground, bright.

Sample order:

K0905.5000802

Stop

carbide-coated and serrated



Material:

Carbon steel 1.0503.

Version:

Tempered to 1200–1400 N/mm², black oxidised.
Serrations ground, bright.

Sample order:

K0905.5201202

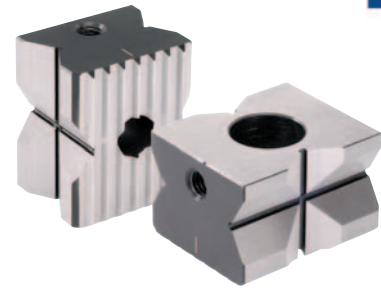
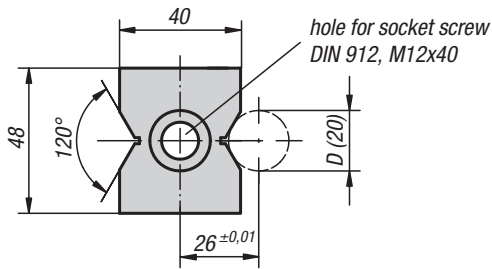
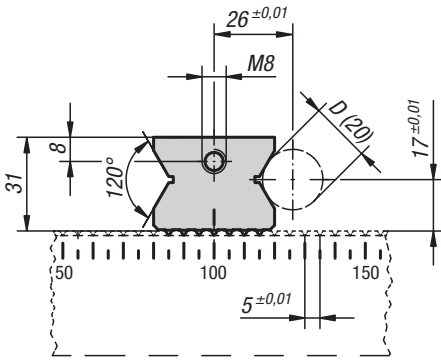
Note:

One stop face is serrated, the other side is carbide-coated.

KIPP Stop, carbide-coated and serrated

Order No.	Dimensions
K0905.5201202	see drawing

Stop prism



Material:
Carbon steel 1.0503.

Version:
Prism tempered to 1200-1400 N/mm², black oxidised.
Serrations and prism ground, bright.

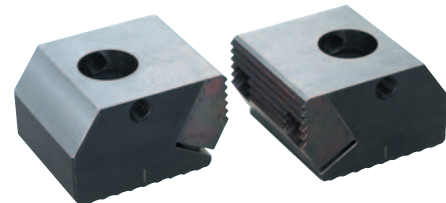
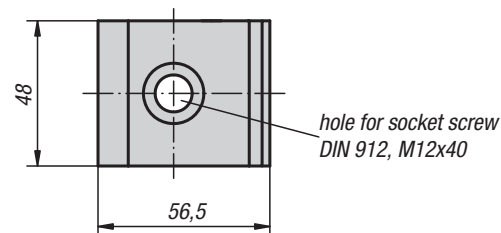
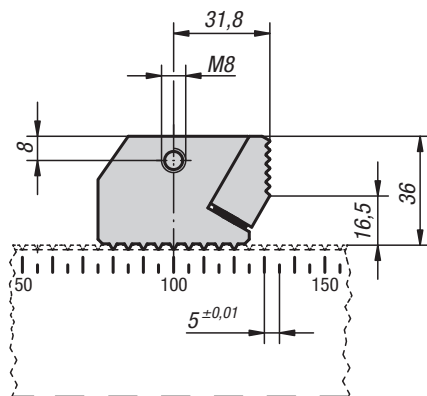
Sample order:
K0906.5001265

KIPP Stop prism

Order No.	D min. - max.
K0906.5001265	5 - 33

K0907

Stop with positive down force



Material:
Stop and jaw carbon steel 1.0503

Version:
Stop and jaw tempered to 1200-1400 N/mm², black oxidised.
Serrations ground, bright.

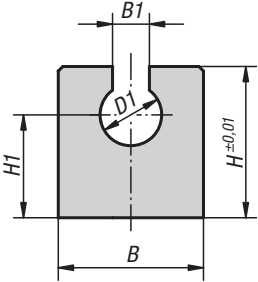
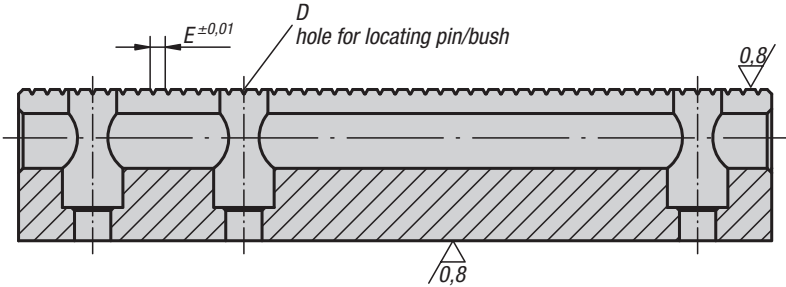
Sample order:
K0907.5001273

KIPP Stop with positive down force

Order No.	Dimensions
K0907.5001273	see drawing



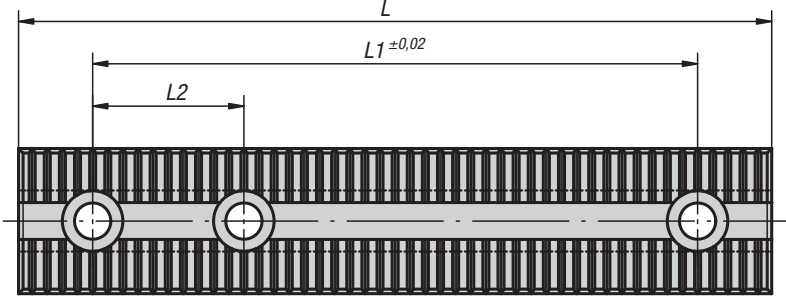
Base rails



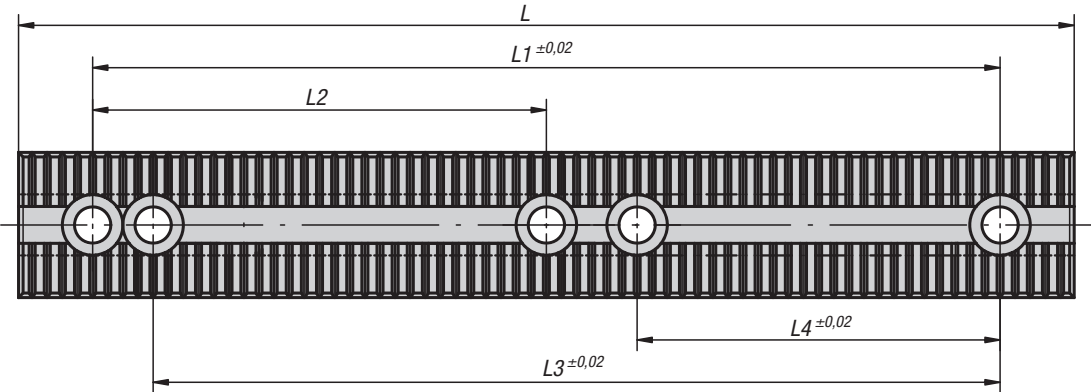
Material:
Carbon steel 1.0503.

Version:
Black oxidised.
Serrations case hardened and ground.

Sample order:
K0904.5000801



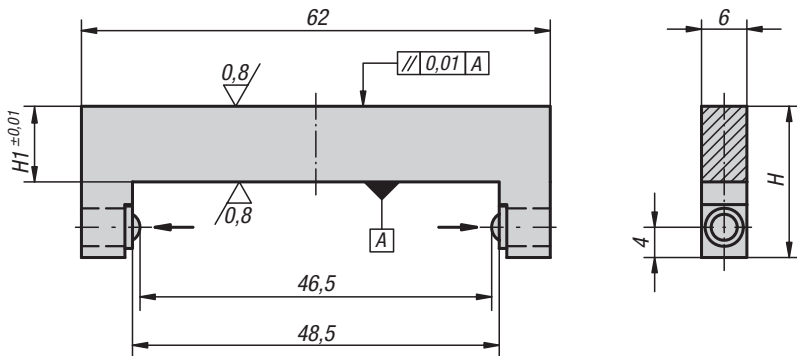
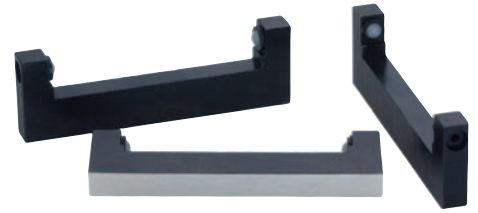
K0904.5021201



KIPP Base rails

Order No.	B	B1	D	D1	E	H	H1	L	L1	L2	L3	L4	weight kg
K0904.5000801	24	8,2	12 H6	14,2	2,5	40	25	199	150	50 ± 0,01	-	-	1,1
K0904.5001201	48	12,2	12 F7	20,2	5	50	34	249	200	50 ± 0,01	-	-	3,7
K0904.5001601	48	16,2	16 F7	24,2	5	63	43	249	200	50 ± 0,01	-	-	4,4
K0904.5021201	48	12,2	12 F7	20,2	5	50	34	349	300	150 ± 0,02	280	120	5

Seating ledges



Material:
Steel.

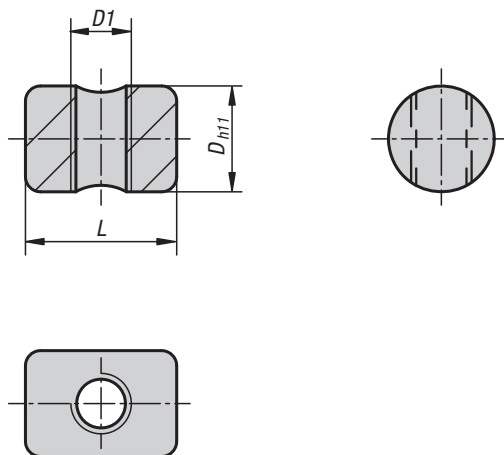
Version:
Ledges hardened, black oxidised.
Contact faces ground, bright.

Sample order:
K0908.5001295

KIPP Seating ledges

Order No.	H	H1
K0908.5001295	20	10
K0908.5001298	27	17

Keyway nuts round



Material:
Steel.

Version:
Black oxidised.

Sample order:
K0909.0802

KIPP Keyway nuts round

Order No.	D	D1	L
K0909.0802	14	M8	20
K0909.1202	20	M12	30
K0909.1602	24	M16	35





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